

DEFENSE

COMMITMENT
TO READINESS

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

19971001 033

SPECIAL ISSUE

*The Quadrennial
Defense Review*



Maintenance crew
works on an EA-6B
Prowler aircraft
aboard the USS
Constellation, en
route to the Middle
East.

C O N T E N T S

*Featuring**The Quadrennial Defense Review***4 PRUDENT CHOICES FIRMLY PURSUED***William S. Cohen, Secretary of Defense***14 THE GLOBAL SECURITY ENVIRONMENT****18 SHAPING THE FORCE FOR THE FUTURE****24 A COMMITMENT TO READINESS****28 MODERNIZING THE FORCE****38 ACHIEVING THE RIGHT INFRASTRUCTURE****42 PAYING FOR THE PLAN**

DTIC QUALITY INSPECTED

COVERS: A beachmaster, front cover, directs a Humvee crew during an amphibious assault exercise at Camp Pendleton, Calif., in June. Top back cover: Alabama Air Guard communications specialists set up shop for Exercise Roving Sands at Fort Bliss, Texas. Bottom back cover: the Navy's new attack submarine USS Seawolf returns to Groton, Conn., July 5 after completing its first sea trials.

DEFENSE 97 is a publication of the Department of Defense to provide official and professional information to commanders and key personnel on matters related to defense policies and interests and to create better understanding and teamwork within the Department of Defense. Published bimonthly by the American Forces Information Service, 601 N. Fairfax Street, Room 311, Alexandria, VA 22314-2007, Telephone 1-703-428-0609, DSN 328-0609. Distributed to DoD activities through the service channels. Subscriptions are sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20401. To place an order by credit card or for more information, call 202-512-1800 between 8 a.m. and 4 p.m. Eastern time. Jacket No. 300-734-40005. ISSN 0737-1217.

The Secretary of Defense has determined that the publication of this periodical is necessary for the transaction of the public business of the Department of Defense.

Quadrennial Defense

Prudent Choices

BY WILLIAM S. COHEN, Secretary of Defense

URING THE PAST DECADE, THE WORLD witnessed rapid and dramatic change. The Soviet empire disintegrated. The Iron Curtain dissolved. The Berlin Wall was dismantled. America no longer was engaged in a global competition with an ideological enemy. Where dictatorship once prevailed, democratic institutions now flourish and market economies are embraced by freedom-loving people throughout most of the industrial world.

The American people have much to celebrate over this turn of events, and there is every temptation to relax and take comfort in the preservation of tranquillity at home and the triumph of our values abroad. The flush of euphoria, however, must be tempered with the knowledge that while the prospect of a horrific global war has receded, new threats and dangers — harder to define and more difficult to track — have gathered on the horizon.

It is the duty of America's policy makers to comprehend the nature of these threats and devise appropriate strategies and programs to defuse or defeat them. In carrying out this responsibility, it is important that we separate fact from fiction and antiquated assumptions from current realities.

It is a commonly held, but erroneous, notion that America's military establishment and forces are trapped hopelessly in

the past, still structured and struggling to fight yesterday's wars.

As we examine how we intend to prepare America's armed forces for an uncertain future, it is important to look at how we got to where we are and where we are going.

During most of the Cold War years, the United States pursued a strategy of containing the Soviet Union. In 1985, America appropriated about \$400 billion for the Department of Defense in constant fiscal 1997 dollars, which constituted 28 percent of our national budget and 7 percent of our gross national product. We had more than 2.2 million men and women under arms, with about 500,000 overseas, 1.1 million in the reserve forces and 1.1 million civilian employees. Defense companies employed 3.7 million more, and about \$120 billion of our budget went to procurement contracts.

Since 1985, America has responded to the vast global changes by reducing its defense budget by some 38 percent, its force structure by 33 percent and its procurement programs by 63 percent. Today, the budget of the Department of Defense is \$250 billion, 15 percent of our national budget and an estimated 3.2 percent of our gross national product. We now have 1.45 million men and women under arms, 200,000 overseas, 900,000 in the reserves and 800,000 civilian employees. Today, \$44

Review

Continuing Pursued

billion is devoted to the acquisition of weaponry from a smaller defense industrial base employing 2.2 million workers.

In making these reductions, we have carefully protected the readiness of our military to carry out its currently assigned missions. But it has become clear that we are failing to acquire the modern technology and systems that will be essential for our forces to successfully protect our national security interests in the future.

Our work on the Quadrennial Defense Review followed a path that led from threat to strategy to implementation and finally to resource issues.

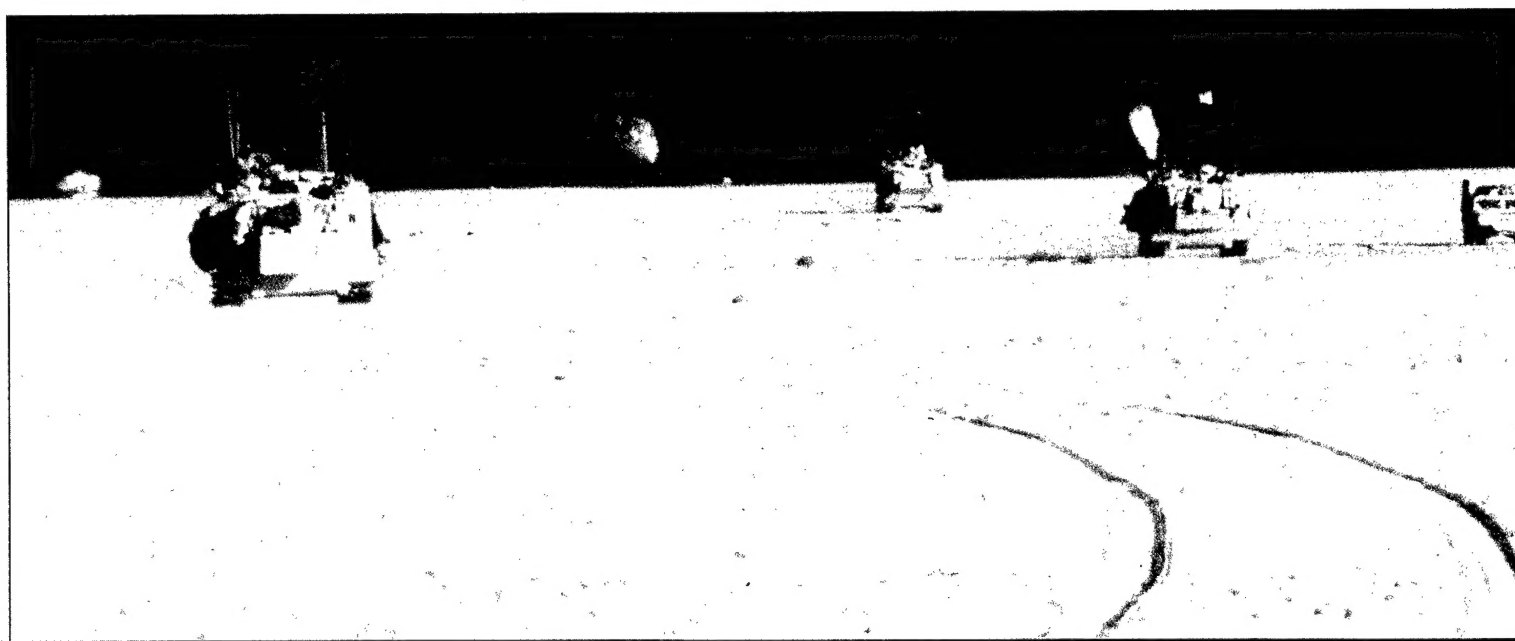
We started with a fresh, unblinking look at the world both today and over the temporal horizon to identify the threats, risks and opportunities for U.S. national security. In

addition, we recognized the world continues to change rapidly. We cannot expect to comprehend fully or predict the challenges that might emerge from the world beyond the time lines covered in normal defense planning and budgets. Our strategy accepts such uncertainties and will prepare our armed forces to deal with them.

From that analysis of the global environment, we developed an overarching defense strategy to deal with the world today and tomorrow, identify required military capabilities, and define the programs and policies needed to support them. Building on the president's National Security Strategy, we determined U.S. defense strategy for the near and long term must continue to shape the strategic envi-

As we examine how we intend to prepare America's armed forces for an uncertain future, it is important to look at how we got to where we are and where we are going.

Marine Corps amphibious assault vehicles make their way across burning Kuwaiti oil fields during the 1991 Persian Gulf War. Retreating Iraqis set the fields ablaze.





Why

How

THE QUADRENNIAL DEFENSE REVIEW is required by the Military Force Structure Review Act, which was included as part of the National Defense Authorization Act for Fiscal Year 1997. DoD designed the review to be a fundamental and comprehensive examination of America's defense needs from 1997 to 2015: potential threats, strategy, force structure, readiness posture, military modernization programs, defense infrastructure and other elements of the defense program. The review is intended to provide a blueprint for a strategy-based, balanced and affordable defense program.

The review was a collaborative effort between the Office of the Secretary of Defense and the Joint Staff, with extensive participation from the military services and the commanders in chief of the combatant commands. The review was designed to be both bottom-up and top-down. It was bottom-up in the sense it tapped expertise and ideas from throughout the department and solicited additional ideas and support from beyond DoD. The effort was top-down in the sense the secretary of defense and chairman of the Joint Chiefs of Staff guided the process to ensure all choices and alternatives provided the capabilities necessary to execute the strategy.

The review was structured into three organizational tiers or levels. At the first level, seven panels conducted reviews of strategy, force structure, readiness, modernization, infrastructure, human resources, and information operations and intelligence. At the second level, an integration group organized the panel results into a coherent set of "integrated options" designed to be consistent with the defense

ronment to advance U.S. interests, maintain the capability to respond to the full spectrum of threats and prepare now for the threats and dangers of tomorrow and beyond. Underlying this strategy is the inescapable reality that as a global power with global interests to protect, the United States must continue to remain engaged with the world, diplomatically, economically and militarily.

After developing the strategy, we anchored its implementation in the fundamentals of military power today and in the future: quality people, ready forces, and superior organization, doctrine and technology. We need quality people to operate more complex technology and to undertake more complex joint operations. We need ready forces in a world of sudden events that often

will demand our forces "come as you are" on a moment's notice.

The information revolution is creating a "Revolution in Military Affairs" that will fundamentally change the way U.S. forces fight. We must exploit these and other technologies to dominate in battle. Our template for seizing on these technologies and ensuring military dominance is Joint Vision 2010, the plan set forth by the chairman of the Joint Chiefs of Staff for military operations of the future.

A spectrum of feasible approaches is available to sustain our current ability to shape and respond to the world as we see it now, while preparing the future force for the world of tomorrow. The Quadrennial Defense Review examined three alternative paths that differed in where they accepted risks and emphasized investment over the

strategy. At the third level, a senior steering group co-chaired by the deputy secretary of defense and the vice chairman of the Joint Chiefs of Staff oversaw the entire process and made recommendations to the secretary of defense, who, in turn, reviewed the recommendations in consultation with the chairman and other members of the Joint Chiefs of Staff.

From the beginning, the senior steering group established a road map for the effort that required close adherence to the following milestones:

- **Start-up and guidance phase (December 1996):** Identify issues, provide guidance and direction to panels, and begin evaluation of the threat assessment.

- **Strategy and fiscal context phase (January 1997):** Present defense strategy and projection of fiscal environment and program risks.

- **Analysis phase (February 1997):** Report initial results of panel reviews.

- **Integration phase (March 1997):** Evaluate and refine integrated options within the defense strategy framework.

- **Decision phase (April 1997):** Present refined alternatives to the secretary of defense for decision and identify issues for further evaluation.

Drawing on the basic principles of the review, work in each phase built directly upon the work of the preceding phase, leading ultimately to the decisions contained in this report. Work in the second and third phases began simultaneously and was initially conducted largely in parallel because of the enormity of the task and the tight schedule. The second and third phases were then reconciled in the last two phases to

produce an integrated result.

The National Defense Panel received regular briefings on the work of the panels as well as on the integration options and decisions. The National Security Council staff and other administration agencies also participated at various points. As the decision options began to take shape, the department began consultation with Congress. The president reviewed and then approved the defense strategy and the final decisions regarding program directions.

The department will continue to consult with Congress on the review and implement the results through submission of any needed changes in the fiscal 1998 budget and development of a detailed budget for fiscal 1999 and revised program plans through fiscal 2003. During that process, the department will also work closely with the National Defense Panel and study any other options the panel identifies. In addition, the department will conduct a series of follow-up studies in the months to come.

The review is DoD's overall strategic planning document and is also intended to fulfill the strategic planning requirements of the Government Performance and Results Act. The department's implementation plan includes extracting key corporate goals from the review and integrating the law into the Planning, Programming and Budgeting System. DoD organizations at all levels will review their strategic plans and mission objectives to ensure they link to the review's goals and objectives. Future Government Performance and Results Act reports will indicate progress made toward meeting the key review corporate-level goals.

near term, midterm and long term.

One path is to focus more on current dangers and opportunities. This path does not ignore the future, but sees today's threats demanding more attention and tomorrow's threats far enough away to give us ample time to respond. This option would maintain the current force structure exactly as is, but it would also invest less in modernization; that is, we would see a greater aging in major platforms, few new systems and a delay in fully exploiting the Revolution in Military Affairs.

Another path is to focus more on future dangers and opportunities. This path does not ignore the present, but sees greater dangers over the horizon, including the possible emergence of a regional great power. This path would devote more resources to building the future force, but

doing so would also require significant reductions in the current force. This would sharply reduce our ability to shape the international environment and undermine our security commitments to our allies while potentially encouraging aggressors. And most importantly, it would erode our military capability, stress the troops and put them at more risk in battle in the near term and midterm.

The path we chose strikes a balance between the present and the future, recognizing our interests and responsibilities in the world do not permit us to choose between the two. This approach retains sufficient force structure to sustain American global leadership and meet the full range of today's requirements. At the same time, it invests in the future force with a

focused modernization plan that embraces the Revolution in Military Affairs, and it introduces new systems and technologies at the right pace.

This approach reallocates resources and priorities to achieve the best balance of capabilities for shaping, responding and preparing over the full period covered by the review. As part of that reallocation of resources, we will trim current forces — primarily in the support structure and modestly in combat power. The result will be a force capable of carrying out today's missions with acceptable strategic risk, while allowing us to stabilize our investment program to achieve the future

joint force capabilities described in Joint Vision 2010. Our plan puts us on a steady and realistically executable trajectory toward that force. We preserved funding for the next generation of systems, such as information systems, strike systems, mobility forces and missile defense systems, that will ensure our domination of the battlespace in 2010 and beyond.

Finally, the department's plans are fiscally responsible. They are built on the premise that barring a major crisis, national defense spending is likely to remain relatively constant. There is a bipartisan consensus in America to balance the federal budget

by the year 2002 to ensure the nation's economic health, which in turn is central to our fundamental national strength and security. The direct implication of this fiscal reality is Congress and the American people expect the department to implement our defense program within a constrained resource environment. The fiscal reality did not drive the defense strategy we adopted, but it did affect our choices for its implemen-

tation and focused our attention on the need to reform our organization and methods of conducting business.

What's New?

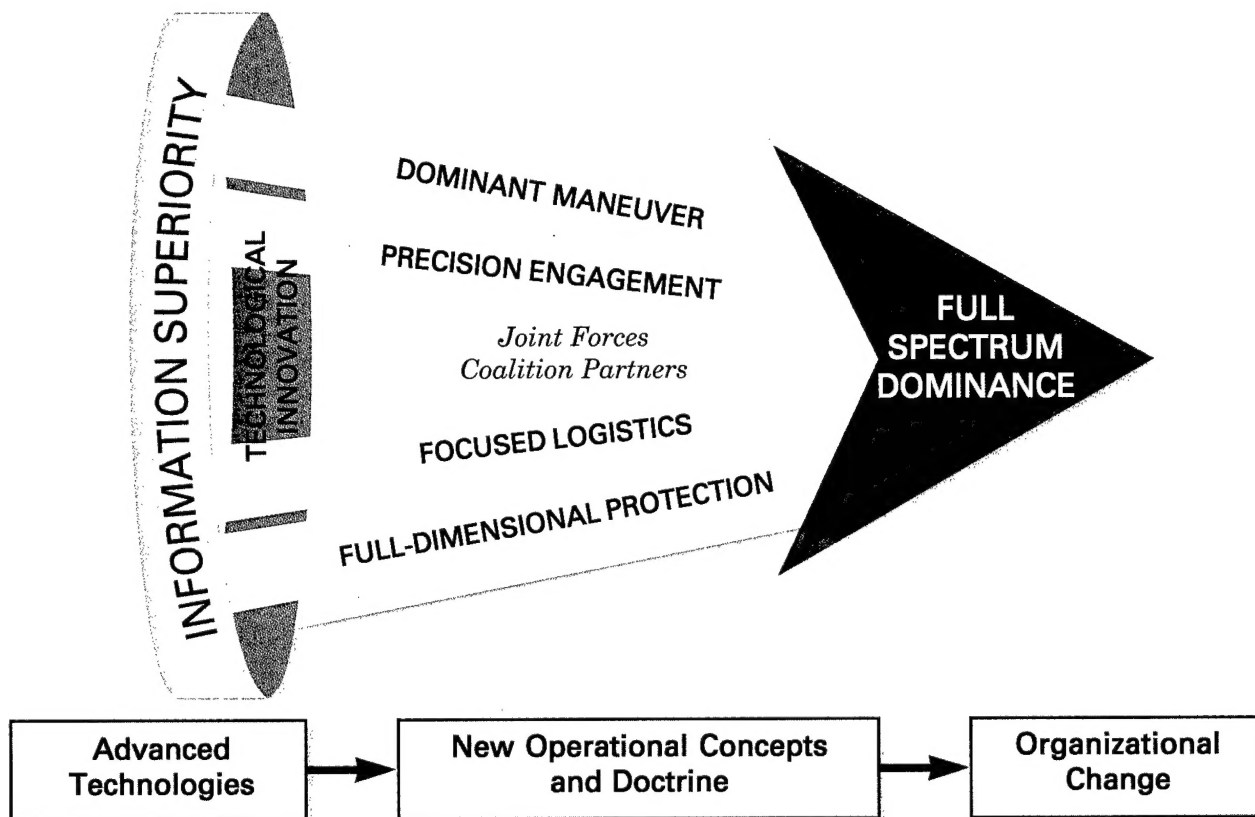
First, the shape-respond-prepare strategy defined in the Quadrennial Defense Review process builds on the strategic foundation of past reviews and our experience since the end of the Cold War. We have determined U.S. forces must be capable of fighting and winning two major theater wars nearly simultaneously. However, while the Bottom-up Review focused primarily on that difficult task, we have also carefully evaluated other factors, including placing greater emphasis on the continuing need to maintain continuous overseas presence to shape the international environment and to be better able to respond to a variety of smaller-scale contingencies and asymmetric threats.

The Quadrennial Defense Review also placed much greater emphasis on the need to prepare now for the future in which hostile and potentially hostile states will acquire new capabilities. This demands increased and stable investment in modernization to exploit the revolution in technology and to transform the force toward Joint Vision 2010. We must fundamentally re-engineer our infrastructure and streamline our support structures by taking advantage of the "Revolution in Business Affairs" that has occurred in the commercial world. We must focus on the future and not the past. Only through such efforts can we realize the cost efficiencies necessary to recapitalize the force.

Second, our future force will be different in character. The programs we are undertaking now to exploit the potential of information technologies and leverage other advancing technological opportunities will transform warfighting. New operational concepts and organizational arrangements will enable our joint forces to achieve new levels of effectiveness across the range of conflict scenarios. We want our men and women to be the masters of any situation. In combat, we do not want a fair fight — we want capabilities that will give us a decisive advantage.

**We want
our men and
women to be
the masters of
any situation.
In combat, we
do not want
a fair fight —
we want
capabilities
that will give
us a decisive
advantage.**

JOINT VISION 2010



Joint Vision 2010 describes four new operational concepts. Together, they promise significant advantages in any operation or environment, something we call “full spectrum dominance.” At the heart of the joint vision is information superiority, the ability to collect and distribute an uninterrupted flow of information to U.S. forces throughout the battlefield while denying the enemy’s ability to do the same.

Dominant maneuver: Having a full picture of the battlefield, advanced mobility platforms and agile organizations, U.S. forces will be able to attack enemy weak points directly throughout the full depth of the battlefield.

Precision engagement: Precision engagement will enable U.S. forces to deliver the desired effects at the right time and place on any target. Having near-real-time information about the target, a common awareness of the battlespace for responsive command and control, and the flexibility to re-engage

with precision, U.S. forces will be able to destroy key nodes of enemy systems at great distances with fewer munitions and less collateral damage.

Full-dimensional protection: Multiple layers of protection for U.S. forces and facilities at all levels will enable U.S. forces to maintain freedom of action during deployment, maneuver and engagement. To achieve this goal, full-dimensional protection requires a joint architecture built upon information superiority and employs a full array of active and passive measures.

Focused logistics: By fusing information, logistics and transportation technologies, U.S. forces will be able to deliver the right support at the right place on the battlefield at the right time. This will enable more effective delivery of tailored sustainment packages to the strategic, operational and tactical echelons. The overall effect will be to reduce the amount of logistics support while ensuring a more capable combat force.

In sum, we will continue to seek the best people our nation can offer and equip them with the best technology our scientists and engineers can produce. This technology will transform the way our forces fight, ensuring they can dominate the battlefield with a decisive advantage at all times across the full spectrum of operations from peace-keeping and smaller-scale contingencies to major theater war. The key to success is an integrated "system of systems" that will give them superior battlespace awareness, permitting them to dramatically reduce the fog of war.

This system of systems will integrate intelligence collection and assessment, command and control, weapon systems and support elements. It will connect the com-

manders to the shooters and suppliers and make available the full range of information to both decision makers in the rear and the forces at the point of the spear.

Achieving such capabilities is not an easy task and cannot be done in one leap. It is a step-by-step process involving the development of new technologies, investment in new platforms and systems, new concepts, training and doctrine, and formation of new organizational structures. These are not just ideas. We have already started down the road, and we have tangible results.

The third new element is that our program

is going to be fiscally executable. For the past several years, our defense program has suffered from unrealized expectations with regard to modernization. Failure to address these fiscal problems would undermine our ability to execute the strategy. For a variety of reasons, projected increases in funding for modernization have continually been delayed as modernization funds migrated to

operations and support accounts to pay current bills. While contingency operations have contributed to the problem, they have not been the chief cause. Failure to address these fiscal problems would undermine our ability to execute the strategy. Therefore, an important corollary to the strategy and force choices in the Quadrennial Defense Review was a focus on rebalancing our overall defense program, improving stability within that program and fixing deficiencies within service and defensewide budgets to ensure modernization targets are met.

What's Next?

The first and most visible aspects of our overall plan to rebalance our defense programs are necessary modest reductions in military end strength and force structure. These reductions are offset in part by enhanced capabilities of new systems and streamlined support structures. The savings that will result, combined with the program stability we can achieve from realistic expectations, will enable us to pay for the transformation of our forces required by the strategy. To preserve combat capability and readiness, the services have targeted the reductions by streamlining infrastructure and outsourcing nonmilitary-essential functions. The result is a balanced, flexible force that has sufficient depth to support the strategy, that matches structure to end strength so hollowness does not set in and that will continue to evolve toward our Joint Vision 2010 capabilities.

The transformation of our forces is an ongoing process. Joint Vision 2010 provides a conceptual umbrella for the other long-range visions and plans developed by the services and other DoD components. The U.S. military is committed to realizing these joint and service visions of modern warfare and is already taking a number of steps to do so. It is a total force effort, involving both active and reserve component forces. By undertaking efforts ranging from studies and war games to advanced concept technology demonstrations and battlefield experiments, the armed forces are developing and testing concepts and capabilities that will

The final steps in preparing for the future, and ones that are essential to putting our program on a fiscally sound basis, are to shed excess infrastructure and to fundamentally re-engineer our business processes.

INTEGRATED PATHS

SHAPE

RESPOND

PREPARE

FORCE-INVESTMENT BALANCE

PATH 1 Focus on Near-Term Demands

Active Military: 1,420,000

Procurement = \$50 Billion

Presence

Continuation of
current levels

Smaller
Contingencies/
Major Theater War

Maintain
current
capability

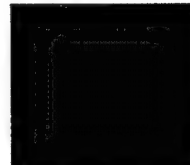
Modernization &
Technology

PATH 2 Preparing for a More Distant Threat

Force Reductions

Active Military: -100,000 to -120,000

Procurement = \$65+ Billion



Accelerate
preparations

PATH 3 Balance Current Demands and an Uncertain Future

Force Reductions

Active Military: -60,000

Procurement Goal = \$60 Billion

Managed pace of
operations

Exploit improved
capabilities of
new technologies

Measured
modernization

ensure their ability to transform for the future.

The final steps in preparing for the future, and ones that are essential to putting our program on a fiscally sound basis, are to shed excess infrastructure and to fundamentally re-engineer our business processes.

The downsizing of our infrastructure has fallen behind the downsizing of our force structure in spite of four base realignment and closure rounds. Since the first round, force structure has come down by 33 percent and will have declined by a total of 36 percent when we finish the reductions under the Quadrennial Defense Review. During the same period, we will have reduced domestic infrastructure by 21 percent as measured by the replacement value of physical facilities. In essence, our combat forces are headed toward the 21st century, but our infrastructure is stuck in the past. We cannot afford this waste of resources in an environment of tough choices and fiscal

constraint. We must shed more weight.

Although base realignment and closure savings come slowly and require up-front costs, the savings to be achieved are significant. Last year, we began to receive annual savings beyond the annual costs for the first four closure rounds, and by 2001, recurring savings will exceed \$5 billion every year. The review found we have enough excess infrastructure to require the two additional realignment and closure rounds for which we will seek authority. Included in the reduction of infrastructure must also be our research and development and test facilities, laboratories and ranges.

We also need to take advantage of business process improvements being pioneered in the private sector. Over the past decade, the American commercial sector has reorganized, restructured and adopted revolutionary new business and management practices to ensure its competitive edge in the rapidly changing global marketplace. It has worked.

Now the department must adopt and adapt the lessons of the private sector if our armed forces are to maintain their competitive edge in the rapidly changing global security arena.

The department has made much progress already in overhauling the defense acquisition system, with full support from Congress. Those efforts are paying significant dividends, permitting us to get far more for each dollar we spend than previously. We have also achieved savings through streamlining our organizations and business practices, replacing cumbersome and expensive systems for minor purchases, for example, with simple credit card operations. However, we need to go much further and deeper, and we need congressional support.

We are examining the best opportunities to outsource and privatize noncore activities, but many of those opportunities are restrained by regulations and practices built up during the Cold War. We need to deregulate defense just as we have deregulated many other American industries so we can reap the cost and creativity benefits of wide-open private competition. A guiding principle of the American government is the government should not perform private sector-type functions, and this should also be true of the defense sector

unless a compelling military need is demonstrated.

I have established a defense reform task force to review the Office of the Secretary of Defense, defense agencies, DoD field activities and the military departments and to look for ways we can consolidate functions, eliminate duplication of effort and improve efficiency. The task force will consult with

Congress and with business executives who have successfully streamlined their corporations in recent years. It will also work closely with the National Defense Panel, the independent, congressionally mandated board reviewing the Quadrennial Defense Review, and with the vice president's National Performance Review. I have directed the task force to submit its report and findings to me by Nov. 30, and I will act on its interim findings as appropriate.

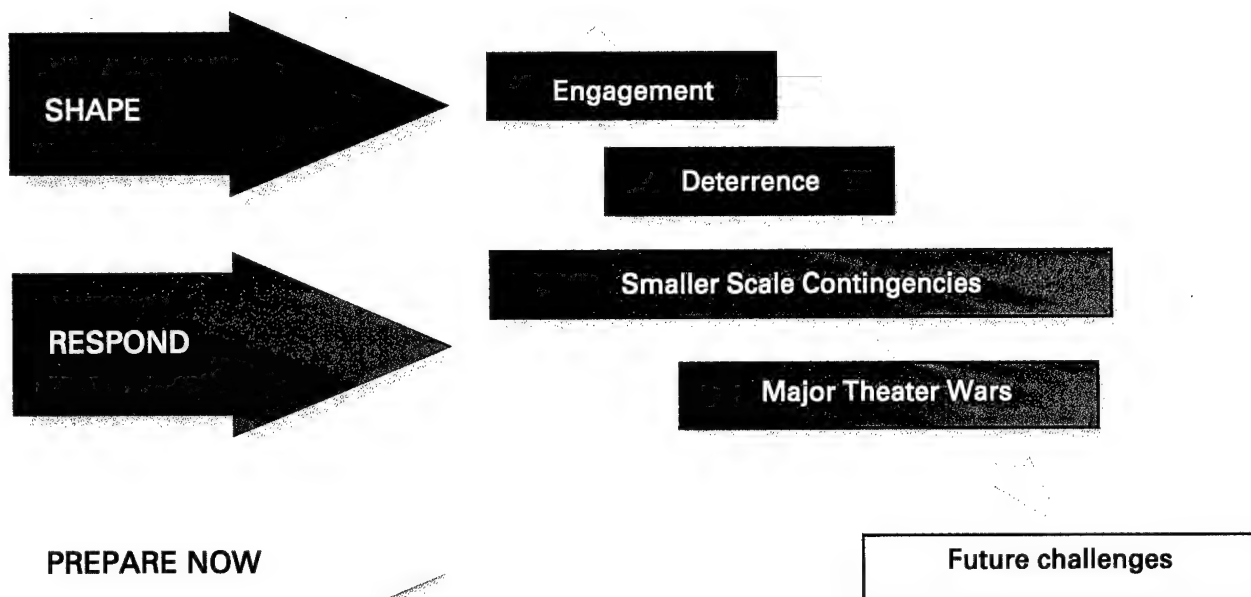
Many of the department's current institutions and infrastructures enjoy significant political support for their local economic contributions. However, the primary test must be their contribution to overall military effectiveness. We must act now if we are to have the resources to invest in modernization in the midterm and if our support capabilities are to keep pace with our military capabilities in the long term.

This approach reflects both the spirit of the administration's efforts to reinvent government and the commitment of Congress to focus government on core functions. As a former elected official who has witnessed the difficult transformation in communities affected by base closure, I fully appreciate the anxiety and, indeed, trauma often involved. Ultimately, however, we need to decide what is more important: keeping a maintenance depot in government hands or putting advanced technology in soldiers' hands; protecting a facility or protecting our forces; preserving local defense contracts or promoting solid enlistment contracts.

These are stark choices, and while we must make changes wisely and with compassion for the civilians who have given years of faithful service, we must also keep faith with the men and women of the military services. Over half of them have known only an armed force steadily shrinking in size. There is great uncertainty about the future, yet they perform magnificently as they serve our country abroad and at home. We must take care of them and their families and ensure that we have given them the best tools to do the jobs we ask. If we take care of them, they will take care of us.

We must act now if we are to have the resources to invest in modernization in the midterm and if our support capabilities are to keep pace with our military capabilities in the long term.

US DEFENSE STRATEGY



Meet shape/respond challenges while transforming future force

The strategy and the plan will give us the military capability and forces we need throughout the 1997-2015 time frame and beyond. The plan balances the needs of the present with the challenges of the future. Our program provides for the forces to deal with present threats while also making available the resources to transform that force to one capable of seizing the opportunities and dealing with the threats of 2015. That transformation already has begun as outlined in the Joint Staff and service vision plans and is being tested in ongoing warfighting experiments.

The plan is an integrated whole. It is based on our strategy, but we cannot carry out that strategy without sufficient resources. Those resources exist within the department's budget, if we wisely utilize them. Doing so requires tough choices and changing the way we do business. It will require legislation in some areas and congressional support. Most of all, it requires joint effort, focused on the goal of protecting our nation as a whole and not the interests of any region, industry or special interest. If we are not willing to do business in new ways, we need to face up to that fact and

be prepared to pay more for less impact. Or we can decide to do less and be less as a nation.

The Greek rhetorician Gorgias spoke of the great challenge of choosing when the choosing is most difficult, "to speak or not to speak, to do or leave undone," and to do so with "the indispensable virtues — prudence and firmness — one for choosing a course, the other for pursuing it."

America begins the new millennium as the sole superpower, the indispensable nation. The responsibilities are heavy and the choices difficult. But with those responsibilities and choices come enormous benefits and opportunities. This report sets forth the Department of Defense's vision of what lies ahead as our nation embarks upon a "New American Century" — both the dangers and the possibilities — as endorsed by the president as commander in chief. It is not enough for us to speak; it is time to decide. The next generation will judge us for our actions, not our words. Working with Congress and by extension, the American people, we have chosen this course with prudence. We must now pursue it with firmness. ♦

The Global Security

AS THE 21ST CENTURY APPROACHES, the United States faces a dynamic and uncertain security environment replete with opportunities and challenges. On the positive side of the ledger, we are in a period of strategic opportunity. The threat of global war has receded, and our core values of representative democracy and market economics are embraced in many parts of the world, creating new opportunities to promote peace, prosperity and enhanced cooperation among nations. The

sustained dynamism of the global economy is transforming commerce, culture and global interactions.

Our alliances, such as NATO, the U.S.-Japan alliance and the U.S.-Republic of Korea alliance, which have been so critical to U.S. security, are adapting successfully to meet today's challenges and provide the foundation for a remarkably stable and prosperous world. Former adversaries like Russia and other former members

of the Warsaw Pact now cooperate with us across a range of security issues. In fact, many in the world see the United States as the security partner of choice.

Nevertheless, the world remains a dangerous and highly uncertain place, and the United States likely will face a number of significant challenges to its security between now and 2015.

First, we will continue to confront a

variety of regional dangers.

Foremost among these is the threat of coercion and large-scale, cross-border aggression against U.S. allies and friends in key regions by hostile states with significant military power. In Southwest Asia, both Iraq and Iran continue to pose threats to their neighbors and to the free flow of oil from the region. Access to oil will remain a U.S. national requirement for the foreseeable future. In the Middle East, the potential for conflict will remain until there is a just and lasting peace in the region and security for Israel.

In East Asia, the Korean Peninsula remains divided. North Korea continues to pose a highly unpredictable threat due to the continued forward positioning of its offensive military capabilities on South Korea's border and the enormous pressures imposed by increasingly dire economic conditions. Elsewhere in the region, sovereignty issues and several territorial disputes remain potential sources of conflict.

Between now and 2015, it is reasonable to assume more than one aspiring regional power will have both the desire and the means to challenge U.S. interests militarily.

In addition, failed or failing states may create instability, internal conflict and humanitarian crises, in some cases within regions where the United States has vital or important interests. As we saw in Somalia and the former Yugoslavia, and as we see today in countries ranging from Albania to the former Zaire, some governments will lose their ability to maintain public order and provide for the needs of their people, creating the conditions for civil unrest, famine, massive flows of migrants across

**Between now and 2015,
it is reasonable to assume
more than one aspiring
regional power will have
both the desire and the
means to challenge U.S.
interests militarily.**

Environment



Sgt. Tracey L. Hall-Lashley, USA

international borders and aggressive actions by neighboring states or even mass killings.

Second, despite the best efforts of the international community, nations find it increasingly difficult to control the flow of sensitive information and regulate the spread of advanced technologies that can have military or terrorist uses. The proliferation of advanced weapons and technologies will

continue. This could destabilize some regions and increase the number of potential adversaries with significant military capabilities, including smaller nations and parties hostile to the United States, and change the character of the military challenges that threaten our national security.

Of particular concern is the spread of nuclear, biological and chemical weapons and their means of delivery; information warfare capabilities; advanced conven-

10th Infantry Division soldiers secure a helicopter landing zone during air assault training in Bosnia in April.

**An aggressor may seek
to avoid direct military
confrontation ... using
instead means such as
terrorism, information
warfare or environmen-
tal sabotage to achieve
its goals.**

tional weapons; stealth capabilities; unmanned aerial vehicles; and capabilities to access, or deny access to, space. The weapon proliferation trend is especially worrisome in the former Soviet Union, where the ability of some states to exert effective control over significant, inherited stockpiles of nuclear, biological and chemical weapons, materials, and technologies is in doubt. It is also a concern in the Middle East, where the proliferation of advanced technologies provides rogue states such as Iran with increasingly sophisticated means to threaten regional security, and in East Asia, where such proliferation threatens to upset delicate military balances in a region rife with long-festering territorial disputes. The civilian marketplace is developing technology that has dual civilian and military applications, and this makes it difficult to slow the diffusion of technology to potentially hostile state and nonstate actors. Nations such as the

United States that embed such technology in their military forces could be particularly vulnerable to countermeasures if this challenge is not fully considered in system designs.

Third, as the early years of the post-Cold War period portended, U.S. interests will continue to be challenged by a variety of transnational dangers, and the lives of U.S. citizens will often be placed at risk directly and indirectly. Increasingly capable and violent

terrorists will continue to directly threaten the lives of American citizens and try to undermine U.S. policies and alliances. The illegal drug trade and international organized crime will continue to ignore our borders, attack our society and threaten our personal liberty and well-being. Uncontrolled flows of migrants will sporadically destabilize regions of the world and threaten American interests and citizens.

Fourth, while we are dramatically safer than during the Cold War, the U.S. homeland is not free from external threats. In addition to the threat inherent in the strategic nuclear arsenals of other countries, there is the potential for further spread of intercontinental ballistic missiles and weapons of mass destruction. In addition, other unconventional means of attack, such as terrorism, are no longer just threats to our diplomats, military forces and private Americans overseas, but will threaten Americans at home in the years to come. Information warfare — attacks on our infrastructure through computer-based information networks — is a growing threat.

Indeed, U.S. dominance in the conventional military arena may encourage adversaries to use such asymmetric means to attack our forces and interests overseas and Americans at home. That is, they are likely to seek advantage over the United States by using unconventional approaches to circumvent or undermine our strengths while exploiting our vulnerabilities.

Strategically, an aggressor may seek to avoid direct military confrontation with the United States, using instead means such as terrorism, information warfare or environmental sabotage to achieve its goals. If, however, an adversary ultimately faces a conventional war with the United States, it could also employ asymmetric means to delay or deny U.S. access to critical facilities; disrupt our command, control, communications and intelligence networks; deter allies and potential coalition partners from supporting U.S. intervention; or inflict higher than expected U.S. casualties in an attempt to weaken our national resolve.

The United States has a significant advantage over potential opponents and increasing capabilities in such areas as space-based assets; command, control, communications and computers; and intelligence, surveillance and reconnaissance. These advantages, however, could also involve inherent vulnerabilities, such as our reliance on commercial communications, that potential opponents could exploit should we fail to account for such challenges.

Dealing with such asymmetric challenges must be an important element of U.S. defense strategy, from fielding new capabilities to adapting how U.S. forces will operate in contingencies.

Along with these projected trends and dangers are "wild card" scenarios that could seriously challenge U.S. interests at home and abroad. Such scenarios range from the unanticipated emergence of new technological threats, to the loss of U.S. access to critical facilities and lines of communication in key regions, to the takeover of friendly regimes by hostile parties. These scenarios are individually unlikely, but taken together, one or more wild cards are more likely to occur than none. In addition, while individual probability may be low, consequences may be disproportionately high. Therefore, the United States must maintain military capabilities sufficient to deal with such events.

The security environment between now and 2015 will also likely be marked by the absence of a global military peer able to challenge the United States. Furthermore, it is likely no regional power or coalition will amass sufficient conventional military strength in the next 10 to 15 years to defeat our armed forces once the full military potential of the United States is mobilized and deployed to the region of conflict. The United States is the world's only superpower today, and it is expected to remain so throughout the 1997-2015 period.

In the period beyond 2015, there is the possibility a regional great power or global peer competitor may emerge. Russia and China are seen by some as having the potential to be such competitors, though their respective futures are uncertain.

Russia's future will depend in large measure on its ability to develop its economy, which in turn depends upon a stable political environment. Russia has made progress in building new democratic institutions, and the United States has made extensive efforts, successful in many cases, to build a partnership with Russia across the political, economic and security fields.

Russia's agreements with NATO will assist in integrating it into a larger European security architecture. Those agreements may dramatically alter Russian attitudes and shape a different security picture. Russia's military forces either will undergo substantial change, including additional downsizing and reorganizing or will face a continued process of progressive deterioration. Russia is also expected to continue to emphasize its research and development program, with modernization of its strategic nuclear capabilities and their continuous operational effectiveness top priorities. However, bringing a significant number of conventional weapon systems into production will depend on the success of its economic recovery.

China has the potential to become a major military power in Asia. The United States will continue to engage China, seeking to foster cooperation in areas where our interests overlap and influence it to make a positive contribution to regional stability and act as a responsible member of the international community. China is likely to continue to face a number of internal challenges, including the further development of its economic infrastructure and the tension between a modern market economy and authoritarian political system, that may slow the pace of its military modernization. Moreover, China's efforts to modernize its forces and improve its power-projection capabilities will not go unnoticed, likely spurring concerns from others in the region.

Finally, it is important to note this projection of the security environment rests on two fundamental assumptions: The United States will remain politically and militarily engaged in the world over the next 15 to 20 years, and it will maintain military superiority over current and potential rivals. If the United States were to withdraw from its international commitments, relinquish its diplomatic leadership or relinquish its military superiority, the world would become an even more dangerous place and the threats to the United States, our allies, friends and interests would be even more severe. ♦

Shaping the Force

THE QUADRENNIAL DEFENSE REVIEW aims to sustain the forces and capabilities needed to meet the demands of our strategy in the near term while at the same time beginning to transform the force for the future. The issue is not whether we will reshape our forces, but how and when.

We seek to attain the long-term benefits of an increased modernization program while minimizing the near-term risk of reducing combat forces.

Across the services, changes in force structure and personnel end strength will be made to reflect improvements in operational concepts and organizational arrangements and to protect the full spectrum of combat capability to the maximum extent possible. In this manner, we seek to attain the long-term benefits of an increased modernization program while minimizing the near-term risk of reducing combat forces.

The principal force and manpower adjustments called for in the Quadrennial Defense Review are summarized below.

Army

The Army will maintain four active corps, six heavy and four light divisions and two active armored cavalry regiments. Within that force posture, the Army is prepared to restructure parts of its force to reflect increased efficiencies in support activities and in anticipation of further organizational

change, including the redesign and downsizing of its heavy divisions as it integrates the results of ongoing warfighting experiments.

Given today's regional threats, elements of the reserve components — the traditional Cold War strategic reserve — can be reduced and transitioned into capabilities that have greater utility across the entire spectrum. This transition will increase depth in the Army's support structure to better support combat operations. These actions, together with the infrastructure efficiencies, will result in the following personnel reductions: active, 15,000; reserve, 45,000; and civilian, 33,700.

Navy

The Navy will maintain 12 aircraft carrier battle groups and 12 amphibious ready groups. Carrier wings will remain at 10 active and one reserve. Surface combatant ships will be reduced from today's level of 128 to 116 as newer and more capable systems are added to the fleet. Reflecting changes in requirements, the attack submarine force will be reduced from today's 73 to 50. Additionally, some combat logistics force ships will be transferred to the Military Sealift Command. These actions, together with infrastructure efficiencies, will result in the following personnel reductions: active, 18,000; reserve, 4,100; and civilian, 8,400.

e for the Future

Air Force

The total fighter inventory will be restructured and modestly reduced from current levels. This will be accomplished by retiring older Air National Guard aircraft and replacing them with approximately 60 fighters from the active component and by

converting six continental air defense squadrons to general purpose, training or other missions. These changes will result in a more modern and flexible force of just over 12 active fighter wing equivalents, eight reserve fighter wing equivalents and four air defense squadrons.

FORCE STRUCTURE

CURRENT FORCE

ARMY
10 Active Divisions
NAVY
12 Aircraft Carriers
73 Attack Submarines
128 Surface Combatants
AIR FORCE
13 Active / 8+ Reserve Wings
MARINE CORPS
3 Marine Divisions

NUCLEAR FORCES
START I Force Structure

QDR FORCE

ARMY
10 Active Divisions
NAVY
12 Aircraft Carriers
50 Attack Submarines
116 Surface Combatants
AIR FORCE
12 Active / 8 Reserve Wings
MARINE CORPS
3 Marine Divisions

NUCLEAR FORCES
START II Force Structure After Ratification

Preserves combat power with a leaner force

The Air Force will consider further reductions in total fighter wing equivalents as additional older-generation assets are replaced by next-generation aircraft. In addition to its fighter force, the Air Force will maintain a total fleet of 187 bombers, 142 of them assigned to operational units. The Quadrennial Defense Review made no change to the tanker and airlift fleets.

The Air Force is consolidating its fighter, bomber and theater airlift squadrons, increasing the number of aircraft in each squadron while decreasing the number of squadrons. It is also reducing intermediate headquarters to streamline its command structure. These actions, together with infrastructure efficiencies, will result in the following personnel reductions: active, 26,900; reserve, 700; and civilian, 18,300.

Marine Corps

The Marine Corps will maintain an active force of three Marine expeditionary forces, each comprising a command element, a division, an aircraft wing and a service support group. The active force will continue to be supported by one reserve division/wing/service support group. The Marines will look toward some reconfiguration of forces based

on ongoing warfighting experiments. In addition, reductions in reserve end strength will be undertaken based on a thorough review of reserve force structure. These actions, together with infrastructure efficiencies, will result in the following personnel reductions: active, 1,800; reserve, 4,200; and civilian, 400.

Across the department, Quadrennial Defense Review actions affecting both the military departments and the defense agencies will reduce active military end strength by 60,000 personnel, reserve end strength by about 55,000 and civilian personnel by 80,000. These reductions reflect modest changes in the services' active combat forces. Our aim in taking these manpower reductions is to preserve the critical combat capabilities of our military

forces — “the tooth” — while reducing infrastructure and support activities — “the tail” — wherever prudent and possible.

The Quadrennial Defense Review force provides a robust set of capabilities to shape the international environment and to continue our commitment to global engagement as called for in the president's National Security Strategy. We will maintain roughly 100,000 military personnel both in Europe and in the Asia-Pacific region. Maintaining this level of capability signals our commitment to peace and stability in both regions. In Europe, it also affirms our leadership in NATO as the alliance prepares to enlarge, reinforces our bilateral relations with key partners and bolsters U.S. leverage in helping shape allied defense capabilities. In the Asia-Pacific region, maintaining this level of capability underscores our commitment to remain engaged as a stabilizing influence in the region, alleviates the potential for destabilizing arms races in the region, underwrites deterrence on the Korean Peninsula and elsewhere and strengthens our voice in international forums dealing not only with Asian security matters but also political and economic matters.

We will continue current rotational deployments of naval, air and ground forces — both active and reserve component forces as required — to key regions such as Southwest Asia. We will also make planned improvements to our pre-positioned stocks of equipment and materiel, both afloat and ashore.

This force structure gives us an effective capability to conduct a wide range of smaller-scale contingency operations, to redeploy from smaller-scale contingency operations to a major theater war and in concert with regional allies, to deter and, if necessary, defeat large-scale aggression in two theaters in overlapping time frames. In the event of two nearly simultaneous major theater wars, certain specialized, high-leverage units or unique assets the United States fields in limited numbers, such as bombers, F-117s, standoff jamming aircraft, command and control and surveillance platforms, selected special operations forces

Most of our special operations forces structure is sized appropriately to meet current and anticipated missions.

and some amphibious assault forces, would likely "swing," or be redeployed from one theater of conflict to another.

Special Operations Forces

Special operations forces provide a range of unique capabilities that have important applications across the full spectrum of conflict. Our review focused on force structure — selected special forces groups and battalions, SEAL teams, and special operations squadrons. We concluded most of our special operations forces structure is sized appropriately to meet current and anticipated missions. However, based on our assessment, we will reduce our structure by two reserve component special forces battalions.

Nuclear Forces

Our nuclear forces and posture were carefully examined during the review. We are committed to reducing our nuclear forces to START II levels once that strategic arms reduction treaty is ratified by the Russian parliament and then immediately negotiating further reductions consistent with the START III framework. Until that time, we will maintain the START I force as mandated by Congress, which includes 18 Trident missile nuclear submarines, 50 Peacekeeper missiles, 500 Minuteman III missiles, 71 B-52H bombers and 21 B-2 bombers. Protecting the option to maintain this force through fiscal 1999 will require adding \$64 million in fiscal 1999 beyond the spending on these forces contained in the fiscal 1998-2003 president's budget now before Congress.

Reserve Components

Maintaining the integrated capabilities of the total force will remain essential for our strategy to succeed. In the post-Cold War era, the reserve components have become an ever larger percentage of the total force and are essential participants in the full spectrum of operations, from the smallest of smaller-scale contingency operations to major theater war. Guard and Reserve forces provide trained units and individuals to fight in wartime and to support the wide

range of DoD operations in peacetime. Reserve component forces are part of all war plans. No major operation can be successful without them.

During the course of the Quadrennial Defense Review, we made several important decisions:

■ Army

The Bottom-up Review identified a need for Army combat forces beyond the 10 active divisions in case regional conflicts were more difficult than foreseen or unexpected circumstances arose that required additional ground forces. As a result, that review directed creation of 15 National Guard brigades to be maintained at an enhanced level of readiness — known as the enhanced separate brigades. This enhancement program is almost complete. The Quadrennial Defense Review reaffirmed the continuing need for these brigades. They will provide an important hedge against adverse circumstances — such as use of weapons of mass destruction — in major theater wars by augmenting or reinforcing active component combat units.

A major issue in the quadrennial review was determining the appropriate missions and size for our eight Army National Guard divisions. Existing plans do not call for these units to participate in major theater wars.

END STRENGTH REDUCTIONS

END STRENGTH	1989	1997	2003	QDR END STRENGTH
<i>Active</i>	2,130	1,450	1,420	1,360 (-60)
<i>Reserve</i>	1,170	900	890	835 (-55)
<i>Civilian</i>	1,110	800	720	640 (-80)

Personnel in Thousands

- Total protection of quality of life programs
- Extension of transition support programs

They are assigned instead to missions that include easing Army personnel tempo in peacetime operations, providing rotation forces for extended contingencies, responding to domestic emergencies and hedging against the emergence of a more threatening international environment.

During the Cold War, the National Guard divisions served as an important strategic reserve. At the time of the Bottom-up Review in 1993, there was concern the failure of democratization in the former Soviet Union could produce another major threat in a relatively short time. Since that time, relations with former Soviet republics have continued to evolve and trends in the international environment have been favorable. Forecasts see no major power threatening the United States before 2010, and

potential threats after that are very uncertain. Therefore, the need for a large strategic reserve has declined, as noted by the Commission on Roles and Missions.

The Quadrennial Defense Review also studied other potential missions for National Guard divisions, taking as a starting point the review strategy and the projected security environment. The review considered these missions for National Guard

divisions:

Army analysis of support requirements in two major theater wars revealed a large combat support/combat service support shortfall. To fill this gap, the secretary of the Army determined in 1996 that 12 National Guard brigades would convert from combat units to combat support/combat service support units. Because this conversion would not have been completed until fiscal 2013, the review has accelerated the conversion program by using some savings from proposed reductions in Guard personnel.

Although the rear-area security mission will most likely be filled by enhanced separate brigades, National Guard divisional units could be used if the brigades are otherwise engaged.

With all active U.S. combat forces sent to

major theater wars, National Guard combat units could replace units deployed from Europe or backfill units deployed from ongoing smaller-scale contingency operations.

National Guard divisional units could help active duty units deploy and support other reserve units during their postmobilization training.

State missions are an important function for all military forces, but especially for the National Guard. These missions will continue, and the Guard will be maintained at sufficient strength to meet these challenges.

Taking these missions into consideration, the review determined the strategy could be supported by a somewhat smaller Army Reserve and National Guard. The analysis indicated a total Army reserve component reduction of 45,000 personnel is possible. Some savings from these reductions will be applied to the combat support/combat service support conversion programs aimed at making the remaining units more effective in carrying out their missions. When these reductions are complete, the Army Reserve components will have been reduced 32 percent from Cold War levels, compared with a 38 percent reduction in the active Army.

■ Marine Corps

The Marine Corps Reserve provides both peacetime and wartime augmentation to the active duty Marine Corps. In peacetime, reserve units take on commitments that provide training for wartime tasks and also relieve active duty operating tempo. In wartime, reserve units augment, reinforce or backfill active duty units.

Based on experience since 1993, a reduction of about 4,200 Marines in the Marine Corps Reserve is possible. The current plan is to reduce reserve infrastructure through a combination of fewer active duty personnel in support of the reserve, active reserve, individual mobilization augmentees and drilling reserve. The Marine Corps will conduct a study to determine the exact nature of these reductions and/or restructuring.

■ Navy

The Quadrennial Defense Review calls for

The net result is little change in total numbers of reserve component fighters, but a significant increase in Air National Guard and Air Force reserve capability and flexibility.

some restructuring of Naval Reserve forces resulting in reductions of 4,100. While some additional reserve personnel will be required to support the transition of combat logistic force ships to the Military Sealift Command, other reserve positions will be reduced due to the reduction of surface combatants and submarine tenders and the early withdrawal of the SH-2 helicopter from service. In addition, the Navy is recommending some cutbacks in overseas activities that will decrease the requirement for reservists assigned to base support.

■ *Air Force*

The Air Force has the most integrated total force on a day-to-day basis. This is especially true of its mobility force associate units, where reserve personnel often work side-by-side with their active counterparts, even sharing the same aircraft. Reserve personnel fly a large percentage of Air Force mobility and support missions in peacetime and in war.

The reserve fighter force has also been used extensively in many peacetime missions. However, some efficiencies can be gained. One initiative will consolidate reserve aircraft into larger units, allowing savings in operations and support costs. All reserve component fighter units will have 15 aircraft assigned. This will be accomplished by transferring a wing of active component aircraft to the reserve. The Air Force will also convert six air defense squadrons to general purpose, training or other missions, leaving four squadrons for air defense. Also, older aircraft will be retired and replaced by aircraft transferred from the active force. Including the changes in missions, the net result is little change in total numbers of reserve component fighters, but a significant increase in Air National Guard and Air Force Reserve capability and flexibility.

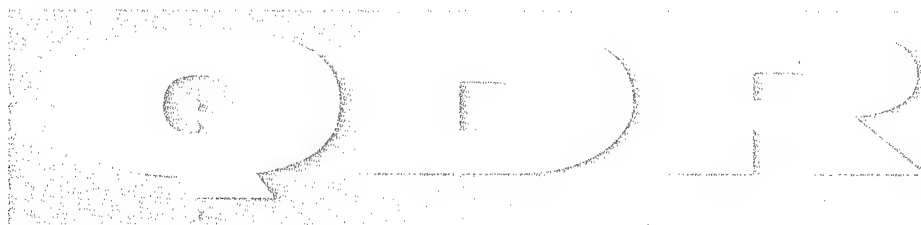
Mobility Forces

We examined mobility requirements across a continuum of planning scenarios, from smaller-scale contingency operations to major theater wars and single-theater conflicts against notional regional great power adversaries. In each case, we measured the ability of DoD's long-range invest-

ment program for strategic mobility to support potential deployment requirements. The Quadrennial Defense Review reaffirmed DoD's baseline requirements for intertheater mobility, as outlined in the 1995 Mobility Requirements Study Bottom-up Review Update.

To meet our force deployment objectives, the mobility update recommended an airlift capability of approximately 50 million ton-miles per day. The study also recommended a surge sealift capacity of 10 million square feet, made up of fast sealift ships, large medium-speed roll-on/roll-off vessels and the Ready Reserve Force. It called for an afloat pre-positioned cargo capacity of 4 million square feet for the Army and Marine Corps and a complementary land-based pre-positioning program. We plan to have six Army land-based brigade sets of pre-positioned equipment (three in Europe, one in Korea, two in Southwest Asia) plus a Marine brigade set in Norway. In addition, we maintain significant stocks of pre-positioned equipment afloat — three Marine Corps Maritime Pre-positioning Ship squadrons, one heavy brigade set of Army equipment and selected munitions for the Air Force. Consideration is being given to creating a third heavy brigade set for Southwest Asia. The review examined the extent to which these mobility forces could meet DoD's intertheater lift needs in the decades ahead. It reaffirmed these requirements, which in turn, will guide DoD's long-range planning for strategic mobility forces.

The burdens placed on U.S. strategic mobility forces will not become less demanding in the future. To the contrary, the potential demands of peacetime engagement, reduced infrastructure at overseas bases needed to support airlift en route to a crisis, the likelihood of smaller-scale contingencies worldwide and the increased possibility of confronting nuclear, biological and chemical threats all pose challenges for mobility forces that were not accounted for in the mobility update. These and other key issues will be evaluated and will receive increased emphasis as DoD formulates upcoming budget requests for strategic mobility programs. ♦



A Commitment to

THE READINESS OF U.S. MILITARY FORCES has never been more important.

Ready forces provide the flexibility needed to shape the global environment, deter potential foes and if required, to rapidly respond to a broad spectrum of threats. In addition, readiness instills the confidence our people need to succeed in a wide variety of challenging situations. In recent years, Department of Defense policy

and budget guidance has explicitly made readiness the top priority. Today's challenge is to maintain this readiness edge while seeking efficiencies and improved operating procedures.

Service Approaches

Each service has a different approach to assuring force readiness. These different readiness approaches are driven by a number of factors, including unique force characteristics, major theater war and smaller-scale contingency response requirements, peacetime forward deployment levels, the availability of training infrastructure, perishable skills and the need for flexibility. Less tangible factors such as morale, leadership development and team-building are also important considerations.

The Army manages resources to achieve the highest possible state of readiness in its "first-to-fight" units, while maintaining the ability to deploy later-arriving units within prescribed timelines. The Navy and Marine Corps meet overseas presence and forward-engagement responsibilities through cyclical readiness to maintain the high readiness requirements of forward-deployed forces. Forces not deployed are engaged in training, maintenance, resupply and personnel turnover, in preparation for the next rotational deployment. The Air Force maintains a high state of overall readiness due to the rapid response requirements for air assets in the initial phase of a major theater war or smaller-scale contingency.

Although readiness remains a top departmental priority, not all units, active or reserve, are resourced to the highest levels. Resources are prioritized by each of the services among major units to sustain different levels of readiness based on missions, response requirements and force characteristics. This resource prioritization reflects the fact transportation capacity and equipment maintenance cycles constrain our ability to respond. The variability in the levels of readiness that results from this prioritization is closely monitored to ensure we have the capability and flexibility to respond to changing requirements.

The current readiness approach provides

Resources are prioritized by each of the services among major units to sustain different levels of readiness based on missions, response requirements and force characteristics.

a varying degree of resources to units according to the likelihood the unit will be required to respond to a military conflict and the time in which the unit will be required to respond. Later-deploying units receive fewer resources because the response time would allow them to get ready before required in theater. In fact, each service uses readiness concepts tailored to its requirements in developing current readiness resource prioritization plans.

Assessment of Tiering

The Quadrennial Defense Review assessed whether reducing the readiness of selected

units would meet strategy requirements and result in significant cost savings. The conclusion of the assessment was that such "tiering" would significantly increase risk at the gain of only modest savings while limiting the flexibility required to execute the current war plans. Constraining factors include the time when units are required to be in theater, the difficulty in regaining the highly perishable skills required to operate sophisticated weapon systems, the capacity of the training infrastructure, the need to optimize matchup of deploying units with transportation assets and the requirement to adjust plans based on the strategic and tactical situations.

READINESS

- Maintain readiness as top priority
- Focus on high-demand units
- Reduce exercises
- Continue oversight of personnel and operations tempo

Reaffirms priority given versatile, highly ready forces

Marines plan a helicopter assault on a sand table during Exercise Desert Patch near Yuma, Ariz., in April.

Petty Officer 2nd Class Kuntz Camberos, USN

To maintain proficiency in the wide variety of required missions and tasks in a joint environment, units will need more effective training and careful time management.

For example, the Army examined reducing the readiness of all but its four Force Package I divisions, including the bulk of its permanently stationed overseas forces, to a less than fully trained status. It found existing infrastructure and training facilities are not designed to meet the training surge required to bring units up to peak readiness in time of crisis under this posture. In addition, the mobilization system would have difficulty supporting tiered readiness surges as Individual Ready Reserve soldiers are brought in to fill out lower-tier units.

While lower-tier units could maintain a capability to be committed to some shaping and engagement missions, soldiers assigned to those units would be at risk of having their critical warfighting skills deteriorate rapidly. Moreover, employing any of the four Force Package I divisions for peacetime

engagement or smaller-scale contingencies would further increase the delay in meeting major theater war timelines and could put the halt phase at risk. Estimated annual savings of only about \$100 million created a force that could not meet major theater war deployment timelines.

Force Management

The chairman of the Joint Chiefs of Staff is pursuing a comprehensive effort to improve force management

day-to-day to ensure the demands of ongoing operations and exercises are sustainable over the long haul without overstressing our people. For example, between fiscal years 1996 and 1998 the unified combatant commands will decrease the number of man-days required for joint exercises by 15 percent. This was achieved by compressing the length of some exercises and slightly decreasing the size of others. Additional reductions are being pursued for both joint and service exercises.

Another force management initiative is to examine the potential for substituting one

unit for another when appropriate. Some units have similar capabilities, such as the RC-135 and EP-3 electronic reconnaissance aircraft, or some Army and Marine infantry units. If conditions warrant, these similar units can be substituted for each other.

Geographical substitution is also important. Peacetime demand is not distributed uniformly around the world, and some theaters have borne a greater brunt of the peacetime burden. Therefore, the department has implemented a global resourcing program designed to share the burdens of response among the forces deployed in all theaters.

The department is also examining expanding use of contractors for support functions in some situations to release military support units. In addition, reservists have been called upon to carry out selected operations. The department is studying the costs and benefits of each approach and will use substitution if and when it is appropriate and cost-effective.

We have also implemented a Global Military Force Policy to allocate low-density/high-demand assets across competing priorities. The policy has dramatically improved management of Airborne Warning and Control System deployments, stabilized RC-135 and EP-3 aircraft deployments at a steady-state rate and improved the deployment rate for EA-6B aircraft. Due to the success of this initiative, the chairman of the Joint Chiefs of Staff is examining ways to develop a more comprehensive system to monitor the effects of high operating tempo. This effort will complement another planning initiative to assist in development of theater-specific engagement plans. The scope of these initiatives will include all military activities intended to shape the regional security environment in peacetime. The combination of planning guidance and operational monitoring processes will provide a valuable set of force management tools.

However, U.S. forces will still face myriad challenges in seeking to maintain a sufficient state of readiness. Advanced joint operational concepts and new technologies

will increase the complexity of operations and require new and different skills. The number of different skills required will also increase as U.S. forces are asked to be increasingly multimission capable, able to transition from peacetime activities and operations to deterrence to war.

To maintain proficiency in the wide variety of required missions and tasks in a joint environment, units will need more effective training and careful time management. Furthermore, as lift capability increases and logistics get leaner, units will be tasked to respond to crises more quickly and conversely, will have less time to prepare.

Joint Vision 2010 calls for all military organizations to become more responsive to contingencies, with less startup time between deployment and employment. Finally, if not adequately managed, the demand for peacetime operations, coupled with a smaller force, could overstress personnel operating tempo and take its toll on the quality of life of military personnel that is the foundation of long-term readiness. Given these challenges, the department intends to implement new management practices that support the defense strategy, conserve resources and ensure our versatile forces remain prepared to carry out the multiple missions they may be called upon to perform.

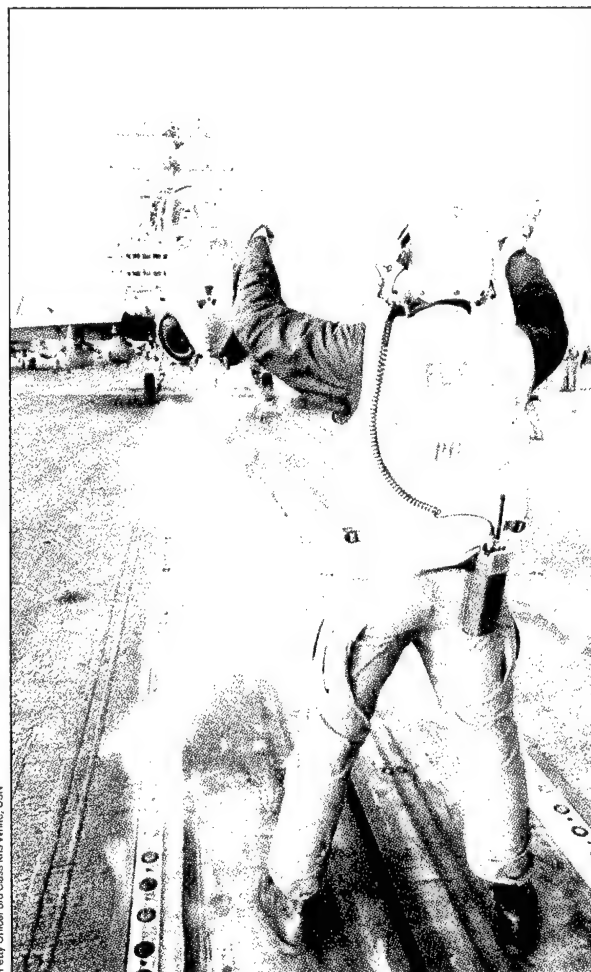
Quality Of Life

The quality of our forces depends on the quality of our military personnel. The men and women who comprise today's all-volunteer military are of the highest caliber, and we must continue to strive to attract and maintain this effective force. An important element of our policy toward our people must be to provide them with a quality of life commensurate with the sacrifices we ask them to make and with the alternatives available in the private sector.

Throughout the Quadrennial Defense Review, attention was paid to those issues that affect the quality of life of our military personnel. In areas where changes in policy or practice can be made, such as the impact of high operating tempo on certain forces,

we have identified those changes and will implement them. In areas where the issue is the availability of resources, the review recommends adequate resources be provided in key quality of life areas.

The department remains committed to funding pay raises and other compensation. Every effort will be made to continue the department's long-term commitment to provide adequate funding in areas such as housing, community and family support, transition assistance as we make further reductions in force, and morale and recreation activities. Educational assistance remains a priority, including off-duty voluntary education. The fighting force of the next century must be an educated, dedicated, motivated force, and programs that keep it that way are an integral part of our force management policy as we move forward from the Quadrennial Defense Review. ♦



Aviation Petty Officer 1st Class Larry Tarver lines up an EA-6B Prowler for takeoff from the deck of the USS George Washington.

Petty Officer 3rd Class Kyle White, USN

Modernizing the

oD'S FUNDAMENTAL CHALLENGE is to ensure that we can effectively shape and respond throughout the 1997-2015 period. This means that even as we maintain ready, versatile forces to meet the challenges of the near term, we must transform our forces, capabilities and support structures to be able to shape and respond effectively in the future.

In an effort to guide this transformation, the chairman of the Joint Chiefs of Staff developed Joint Vision 2010, a conceptual template for how America's armed forces will channel the vitality and innovation of our people and leverage technological opportunities to achieve new levels of effectiveness in joint military operations. Joint Vision 2010 embraces information superiority and the technological advances that will transform traditional warfighting via new operational concepts, organizational arrangements, and weapons systems. It guides the department's preparations for the future through its focus on four new operational concepts—dominant maneuver, precision engagement, full-dimension protection, and focused logistics—that together aim at achieving full-spectrum dominance. By conducting several research efforts that look out to 2020 and beyond, the department seeks to ensure it will be prepared for a range of plausible futures.

The department's extensive modernization effort will reach the aggregate procurement spending objective of \$60 billion per year shortly after the turn of the century. It

directly supports efforts to realize the modern, joint capabilities called for by Joint Vision 2010 and to exploit the "Revolution in Military Affairs" in accordance with the "prepare now" tenet of our defense strategy.

The Quadrennial Defense Review focused on a number of programs for evaluation and decision in order to ensure that future U.S. forces have modern, technologically superior equipment, that systems are effectively integrated across platforms and services, and that programmatic and operational risks were weighed in the context of force requirements. Several of these decisions resulted in programmatic changes, highlighted below.

■ C⁴ISR

Because modernization of our forces depends on a strong common backbone of command, control, communications, computer, intelligence, surveillance and reconnaissance systems, and because these systems require significant resources, the department undertook a hard, sweeping look at our entire C⁴ISR effort. While the review evaluated a number of programmatic adjustments, it did not change the general focus and amount of resources devoted to C⁴ISR.

The net effect of the programmed investments will be to substantially improve our awareness of various types of enemy forces in the areas adjacent to our forces and at

MODERNIZATION *Initiatives*

■ Restructure Tactical Aircraft Program



OUT YEAR COMPETITION

◀ **F/A-18 E/F**

Reduce buy, slow production rate

▼ **JSF**

Increase buy, speed production rate

e Force

longer ranges as well. We will continue to evolve toward more interoperable battle management systems with the initial deployment of the Global Command and Control System below the joint command level and into operational service units.

The department is committed to achieving information superiority and to resolving remaining challenges over the next several years. A significant challenge is to overcome deficiencies in our ability to move information in a

timely manner to the lowest tactical levels. We will fund efforts to correct certain imbalances in the overall program and by more aggressively using advanced technologies to reduce costs. Decisions on C⁴ISR will be made in the context of other decisions on force structure, force design, weapon platforms, munitions and information-enabled operational concepts.

■ **JSTARS**

The Joint Surveillance and Target Attack Radar System provides radar data on fixed and moving targets from an airborne battle management platform and enhances our combat forces' ability to operate throughout the battlespace in responding to crises. In conflict, the tracking data can be used by on-



◀ **F-22**

Reduce buy, slow production rate

■ Fully fund 3+3 National Missile Defense

■ Accelerate Marine Corps V-22 Production Rate

■ Accelerate Deployment of Army's Force XXI

■ Expand CW / BW Protection

Stable and focused modernization to implement new vision of future warfare

**The F-22 program
will build to a maximum
production rate of 36 aircraft
per year, down from the
original planned rate of 48
per year, ensuring overall
affordability beyond the
program period.**

board and ground-based controllers to help direct timely attacks. Our system development provides important enhancements to the U.S. JSTARS fleet and reflects our commitment to support NATO's consideration of the Alliance Ground Surveillance capability.

The department has decided to reduce the overall U.S. JSTARS fleet from 19 to 13 aircraft. A fleet of this size will provide round-the-clock coverage needed in a major theater war. Some portion of these aircraft would have to be redeployed in the event of a second major theater war. In addition, this fleet could be augmented by NATO JSTARS aircraft, if the allies collectively agree to fund the Alliance Ground Surveillance

capability. The decision to limit the JSTARS buy also allows for funding to support the U.S. share of a four- or six-aircraft NATO program. The six-plane buy would allow for broader NATO participation, supporting our April 30, 1997, "fast-track" offer to our allies.

We will also explore the potential for supplementing radar coverage of enemy force movements from long-endurance unmanned aerial vehicles. In addition, our approach provides funds for key upgrades to U.S.

JSTARS, including radar upgrades and improved connectivity to weapon platforms and broadcast intelligence.

■ Tactical Aircraft

Our review focused on the F-22 Raptor, the F/A-18 E/F Super Hornet, and the Joint Strike Fighter. We assessed alternatives from the standpoint of both warfighting risk and cost. Termination of any of the programs was considered imprudent given the warfighting risk of such a decision and the significant adverse impact it would have on technology development and the defense industrial base. However, DoD also needed to balance such risk against the needs to use scarce modernization funds prudently and to

support acquisition program stability by planning for that which we can truly afford. The interrelationships among these programs were a significant factor, including the direct transfer of derivative avionics and propulsion technology from the F-22 to the Joint Strike Fighter.

F-22

The F-22 is the Air Force's replacement for the F-15C/D in the air superiority role; it will also incorporate substantial air-to-ground capability. The F-22 will have a much-reduced radar signature, an ability to cruise at supersonic speed and a new generation of avionics. It can also carry precision munitions that enable it to attack ground targets anywhere on the battlefield.

We have decided to decrease total procurement of the F-22 from 438 to 339 aircraft, consistent with its much greater capability compared to the F-15, as well as our overall affordability concerns and force structure decisions. This decision will provide three wings of this stealthy air supremacy platform.

Consistent with this decision, we are slowing our ramp-up to full production of the aircraft. We will buy 12 fewer F-22s during low-rate initial production, thereby decreasing concurrency in the program. The F-22 program will build to a maximum production rate of 36 aircraft per year, down from the original planned rate of 48, ensuring overall affordability beyond the program period.

In the future, the department will consider replacements for the F-15E and the F-117 long-range interdiction aircraft when they reach the end of their service lives beyond 2015. To make that decision, the department will consider a range of alternatives, including the possible acquisition of variants of the F-22 for these roles.

F/A-18E/F

The Navy's principal fighter/attack acquisition program, the F/A-18E/F is an enlarged, much-improved follow-on to the proven F/A-18C/D, currently the backbone of carrier aviation. The E/F model has significantly greater range, carrier payload recovery capability, and survivability. It also will



The MV-22 Osprey tilt-rotor aircraft, **inset**, is a major Marine Corps modernization effort. The Osprey flies faster and farther and can carry a larger payload than the 1960s-vintage CH-46 Sea Knight helicopter it will replace.

be able to function as a tanker for in-flight refueling. The F/A-18E/F affords valuable growth capability and more payload flexibility to effectively employ the next generation of stand-off weapons.

The Navy will plan on procuring a minimum of 548 F/A-18E/Fs, building up to a maximum rate of 48 aircraft per year in contrast to the previously projected peak rate of 60. The ramp-up to the full production rate of 48 per year will be delayed two years to fiscal 2002 in order to ensure funding balance during the program period. This will result in a reduction of 24 aircraft in the program period.

The Navy will transition to the Joint Strike Fighter as soon as its costs and effectiveness are well understood, and the aircraft is demonstrated to be superior to the F/A-18E/F. Depending upon the pace of progress, this transition may begin as early as fiscal 2008, when initial production of the Joint Strike Fighter is planned for the Navy. Should development be delayed, additional F/A-18E/F aircraft beyond 548, to a total as high as 785 aircraft, may be added later as appropriate to sustain planned force structure. In the future, the department will also consider variants of the F/A-18E/F as possible candidates for the eventual replacement of the EA-6B electronic warfare aircraft.

Joint Strike Fighter

This fighter will be the department's largest acquisition program and the first to develop a family of common aircraft for use by land- and sea-based aviation forces. The

Joint Strike Fighter will be employed by the Air Force, Navy and Marine Corps in variants configured for each service's specific needs. This triservice program reflects the judgment that developing three major new combat aircraft simultaneously would have been prohibitively expensive. This fighter is anticipated to have a substantial mission radius and high survivability, and it will use advanced-technology design, materials and manufacturing techniques.

Total procurement was reduced to 2,852 aircraft, down from 2,978 in our previous long-range plans. A Joint Staff-led review of service plans showed the prospect for inventory management efficiencies through such a reduction.

In addition to decreasing the total buy, the maximum planned production rate of 194 aircraft will be reached in 2012 rather than 2010, easing overall modernization affordability. Uncertainties in prospective Joint Strike Fighter production costs warrant careful departmental oversight of the cost-benefit tradeoffs in design to ensure that modernization and force structure remain in balance over the long term.

■ Marine Corps MV-22 Osprey

The MV-22's unique tilt-rotor design represents leap-ahead technology in supporting combat forces.

Two changes in the program are now planned: The department will accelerate procurement to a long-term rate of 30 aircraft per year in 2004; and based on the MV-22's superior capability relative to the CH-46 helicopter it will replace, the depart-

Procurement of the CVN-77, the 10th Nimitz-class carrier, continues the modernization of the nation's carrier fleet at a force structure level of 11 active carriers and one Reserve/training carrier.

ment will reduce the MV-22 program objective from 425 aircraft to 360. By combining accelerated procurement with a reduced total buy, we will exploit the Osprey's demonstrated performance, dramatically improving our midterm operational capabilities while saving over \$3 billion in total program costs.

The new program of 360 MV-22s reflects streamlined logistics requirements for the Corps' infantry battalions and divisions which are anticipated from Marine initiatives such as the Combat Service Support Element Enterprise and the Sea Dragon advanced warfighting experiments. The new objective of 360 Ospreys also reflects the benefits of this modern aircraft's greatly

increased reliability and maintainability. The accelerated procurement of the MV-22 reflects our commitment to modernization of Marine Corps combat capabilities, incorporating revolutionary 21st century technology.

■ B-2 Bombers

The department has decided not to propose procurement of any additional B-2 bombers beyond the currently planned force of 21 aircraft.

The assessment that led to this decision examined numerous trade-offs of other capabilities in the broader context of the requirements identified during the review. It was aided by analysis conducted as part of the Deep Attack Weapons Mix Study that examined the advantages and disadvantages of reducing elements of our current force structure — other bombers, sea-based aviation, and land-based aviation — in order to procure additional B-2 bombers.

The analysis showed that in a majority of the cases examined, additional B-2s deployed quickly to a conflict could improve our ability to halt an adversary's advance during the opening days of a major theater war. This was especially true in cases where there would be little or no warning of the

conflict or where our tactical aircraft would be restricted in their access to the theater. In addition, the B-2 could use less expensive munitions in more missions than existing aircraft. This advantage, however, diminishes as other low observable aircraft, particularly the Joint Strike Fighter, enter the force.

Against these advantages of the B-2, the analysis weighed several disadvantages. First, the B-2 would not provide the full range of warfighting and shaping capabilities offered by the forces it would replace. For example, missions such as air superiority, reconnaissance and forward presence would suffer.

Second, the additional B-2s did not provide the same weapons delivery capacity per day as the forces that would have to be retired to pay for B-2s. Although this difference is less important in the halt phase because of the B-2's superior survivability, it has greater impact throughout the remainder of the conflict after the adversary's air defenses have been substantially suppressed.

Third, existing forces would have to be retired immediately to pay for the additional B-2s. Even then, the savings from retiring the forces are not enough to offset the large up-front investment for the B-2s in the Future Years Defense Program — and there would be a loss in warfighting capability during the decade or more between when the outgoing forces were retired and all the B-2s were delivered.

■ Deep Strike/Anti-Armor Weapons and Munitions

In the wake of the Deep Attack Weapons Mix Study, the department determined that the current munitions programs, with modest adjustments, will provide the capability to defeat potential aggressors in the years ahead. The next generation of munitions will give our forces superior precision engagement capability against projected threats. The fielding of unitary and cluster bombs that can be delivered accurately from altitudes above the effective range of enemy anti-aircraft artillery and man-portable surface-to-air missiles, standoff weapons

that avoid dense concentrations of air defenses, and highly effective precision munitions will increase the survivability and lethality of our forces in future conflicts as called for in Joint Vision 2010.

For the "deep battle," the following systems will be procured in accordance with existing plans: the Wind-Corrected Munitions Dispenser carrying Combined Effects Bomblets or the "brilliant" Skeet anti-armor submunition, the Army Tactical Missile System with Brilliant anti-armor submunitions; the improved Sensor-Fuzed Weapon, and the Joint Stand-Off Weapon with a unitary warhead. In addition, we will consider decreasing our buy of stand-off weapon variants carrying Combined Effects Bomblets and Skeet, increasing our buy of Joint Air-to-Surface Stand-off Missile and laser-guided bombs, and changing the mix of Joint Direct Attack Munition variants. We will also continue Hellfire II production while analyzing the appropriate mix of Hellfire II and Hellfire Longbow missiles.

To maintain a balanced approach for the "close battle," the department is continuing to evaluate a number of candidate anti-armor systems. Our evaluations to date support our commitment to the ongoing Javelin program as planned and demonstrate the potential importance of the follow-on to the tube-launched, optically tracked, wire-guided missile and M-829E3 armor-piercing tank round. Working with the services, the department will decide on the mix of these close-battle anti-tank weapons during the development of the next defense program.

■ Ship Modernization

The Navy's ship modernization program will ensure the United States retains the ability to control the seas and project power ashore in peacetime and across the broad spectrum of contingencies. Procurement of the CVN-77, the 10th Nimitz-class carrier, continues the modernization of the nation's carrier fleet at a force structure level of 11 active carriers and one Reserve/training carrier. A total force structure of 12 carriers will allow the United States to sustain carrier battle group deployments at a level



that helps shape the international security environment in support of our security strategy and commitments. Additionally, contingent on a re-evaluation of peacetime overseas presence requirements, submarines will be procured at a long-term rate of 1½ to two per year, consistent with a target force level of 50 attack submarines.

■ Army Ground Combat

The Army faces both near- and long-term challenges in executing its currently planned modernization program. Reductions in operations and support costs will help us achieve needed modernization funding increases and will provide additional resources above those previously planned. These additional resources will address a number of the Army's most pressing modernization needs. For example, the Army will accelerate the fielding of a digitized corps and complete Army National Guard division redesign more quickly.

"Digitization" involves the use of modern communications capabilities and computers to enable commanders, planners and shooters to rapidly acquire and share information. This improved awareness will revolutionize the conduct and tempo of all phases of combat operations. The results of recent Army warfighting experiments at Fort Irwin, Calif., and follow-on experiments will

Army modernization includes AH-64 Longbow Apache attack helicopters, which will carry improved targeting systems and a "fire-and-forget" version of the tank-killing Hellfire missile.

The Army National Guard division redesign will relieve an important war-fighting shortfall by converting lower priority combat brigades into higher priority combat support and combat service support forces.

be used to determine the force structure, materiel requirements and doctrine for digitized units. The Army had planned to field the first digitized corps in 2006. This corps now can be fielded one to two years sooner.

The Army National Guard division redesign will relieve an important warfighting shortfall by converting lower priority combat brigades into higher priority combat support and combat service support forces. This program was established last summer, but funding shortfalls have restricted the pace of conversion. The department will now accelerate the pace by increasing both near-term and midterm funding and completing the program on a more realistic time line.

Although these actions will improve the Army's longer-term investment program, additional measures will be required to achieve a balanced modernization program. In the middle of the next decade, the RAH-66 Comanche helicopter and the Crusader self-propelled howitzer will enter production. Our review affirms that both systems are necessary to the Force XXI concept. Savings from planned Army personnel reductions alone will be insufficient to support both programs. Additional funds from sources such as base

realignments and closures are critical to procuring these systems on the projected schedule. Programmatic changes, including reducing currently projected peak procurements and rephasing other major programs, may also be necessary.

■ Theater Ballistic Missile Defense

The Quadrennial Defense Review thoroughly reviewed all theater ballistic missile defense programs and identified programmatic issues in the Theater High-Altitude Area Defense system and Medium Extended Air Defense System.

Technical failures in the former's test

program have required its restructure and brought into serious question the program's ability to meet the 2004 target date. This restructure will improve the stability of the program, lower its risk, and allow us to explore increased commonality between the interceptor missiles and kill vehicles used in the theater high-altitude system and the Navy Theater-Wide systems.

The latter program, a cooperative theater missile defense development effort with Germany and Italy, is currently unfunded beyond fiscal 1998. In the review, the department decided to fund the program through fiscal 1999. The review reaffirmed our approach to the high-priority Patriot Advanced Capability-3 and Navy Area Defense lower tier systems, Navy Theater-Wide upper-tier system, and the Airborne Laser program. In addition, the department is committed to continue pursuing increases in capability in attack operations to address the theater ballistic missile and cruise missile threats prior to launch, thereby reducing the stress and reliance on intercept systems.

■ National Missile Defense

Developing U.S. capabilities to deploy a national missile defense that will protect against a limited ballistic missile attack is a high national priority. The administration established a development program aimed at creating the option to make a decision on deployment as early as fiscal 2000, if the threat warrants. The goal of the program is to be able to deploy an initial operational capability within three years after such a decision is made. We determined in the review that the existing National Missile Defense program could not meet these objectives within the programmed budget.

The analysis further concluded that substantial additional funds should be directed to national missile defense over the next three years, but noted that even with additional funds, the program will remain one with very high schedule and technical risks. The department has decided to add the needed funds, totaling about \$2 billion. However, the precise amount and allocation over the coming years is still under review.

■ Cruise Missile Defense

In light of intelligence estimates that a cruise missile threat to U.S. forces may emerge after 2000, DoD has a substantial theater cruise missile defense program. This effort could provide significant assistance to a national cruise missile defense effort. Over the next several years, the department has decided to increase emphasis on national cruise missile defense.

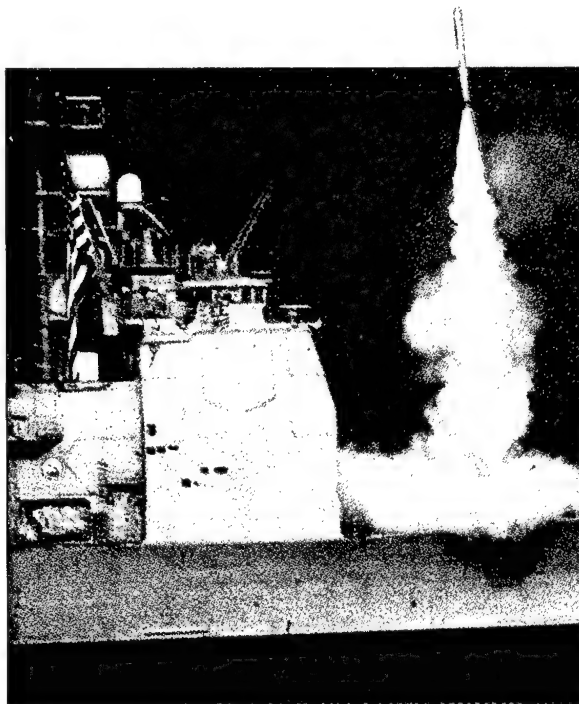
■ Navigation

Upgrades to the space-based Global Positioning System and compliance with global air traffic management rules that will be coming into force over the next several years will require significant future expenditures which are yet to be determined. The challenge is to efficiently implement upgrades to the positioning system satellite constellation and user equipment that allow us to respond effectively in time of crisis and to facilitate our participation in the air traffic control system and other navigation and safety efforts.

The March 1996 Presidential Decision Directive on the Global Positioning System directs the department to pursue the protection of our access in the face of potential enemy electronic jamming and the ability to deny enemy use of it. A program decision supporting this directive is scheduled for late 1998.

DoD efforts to ensure compliance with the new air traffic control regime are being coordinated by the Federal Aviation Administration and the International Civil Aviation Organization and will involve significant investment to properly equip the department's very large fleet of aircraft. The department must introduce the needed navigation equipment to comply with the new procedures in order to preserve the worldwide deployment capability of our forces, avoid delays and enhance air-space management capability.

Integral to our efforts to transform the department for the future are our efforts to address a range of asymmetric challenges. Measures to prepare our forces to face these challenges, from fielding new capabilities to adapting how U.S. forces will operate in



The cruiser USS Shiloh launches a Tomahawk cruise missile against a target in southern Iraq following threatening moves by Saddam Hussein's army along the Kuwaiti border in September 1996.

future contingencies, are under way. To ensure U.S. forces will be able to respond effectively to such challenges through the year 2010 and beyond, the Office of the Secretary of Defense, the Joint Staff, the services, and the unified combatant commands are working together in several areas. Chief among these are threats of nuclear, biological and chemical weapons use, terrorism and information warfare.

■ Counterproliferation

In recent years, the department has made substantial progress toward fully integrating the risks associated with an adversary's nuclear, biological and chemical weapons use into our military planning, acquisition, intelligence and international cooperation activities. This need was underscored in the major theater war assessment done in the Quadrennial Defense Review.

Accordingly, the secretary of defense has increased planned spending on counterproliferation by approximately \$1 billion over the program period, particularly for protective measures against chemical weapons. With this additional investment, the department will continue to strengthen existing U.S. capabilities. These efforts will be critical to ensuring that U.S. forces have the counterproliferation capabilities they need as we move into the 21st century.

Given the likelihood that U.S. forces will fight in coalition in the future, combined readiness is a key concern. Unless properly prepared, allies and friends would be vulnerable.

The review underscored two key challenges the department must meet as part of its strategy to ensure future counterproliferation preparedness: It must make counterproliferation an organizing principle in every facet of military activity, from logistics to maneuver and strike warfare, and it must encourage allies and potential coalition partners to do the same, to train, equip and prepare their forces to operate with us.

To advance the former concept, the Joint Staff and unified combatant commands will develop an integrated strategy that includes offensive and defensive measures to counter nuclear, biological and chemical weapons. The U.S. military will continue to develop

regular, realistic individual, unit, joint, and combined training and exercises. Such training and exercises are the best means for testing operational concepts and doctrine and for fostering innovation and adaptation. Early deployment or pre-positioning of defensive and theater missile defense capabilities and personnel into theaters of operations will also be explored.

Ongoing DoD programs focused on future counterproliferation capabilities include theater missile

defense programs; development of a capability to defeat hard and/or deeply buried targets; biological weapon detection and emergency response programs; chemical detection, protection and decontamination; and increased funding for special operations forces counterproliferation activities.

Complementing these efforts are those encouraging allies and friends to adapt similarly. Given the likelihood that U.S. forces will fight in coalition in the future, combined readiness is a key concern. Unless properly prepared, allies and friends would be vulnerable. Potential coalition partners cannot depend on U.S. forces to provide passive and active defense capabilities to counter nuclear, biological and chemical threats.

U.S. counterproliferation cooperation with its NATO allies through the Senior Defense Group on Proliferation provides a template for improving the preparedness of long-standing allies and potential coalition partners. In particular, efforts to strengthen international counterproliferation partnerships are currently under way with allies and friends in Asia.

■ Force Protection & Combating Terrorism

Over the past few years, and particularly following the June 1996 attack on Khobar Towers in Dhahran, Saudi Arabia, the department has moved swiftly to reduce American vulnerability to terrorist attacks and to make U.S. forces as pre-eminent in combating terrorism as they are in other forces of warfare. The department will ensure U.S. forces operate under mandated standards for combating terrorism; improve intelligence collection, distribution and information-sharing with allies; and strengthen our capability to protect citizens and military personnel from chemical or biological attacks, with special emphasis on high-threat regions. Future efforts will focus on enhancing both anti-terrorism and counterterrorism capabilities and will range from policy initiatives to planning and training improvements, and the development of new operational systems to combat terrorism.

To ensure the U.S. military has highly effective anti-terrorism capabilities in the future, the department will undertake several initiatives. It will enhance force protection training using a mobile "train the trainers" approach to reach senior leaders and their key staff. It also will continue to improve the newly created Chemical/Biological Incident Response Force, a Marine unit that performs consequence management in chemically and biologically contaminated environments. Finally, the department will continually reassess the vulnerability of its facilities at home and abroad and make necessary improvements to safeguard their physical security.

The department is also committed to improving sensitive counterterrorism training and technologies — those used to

deter, defeat and respond vigorously to terrorist attacks over the next decade. Counterterrorism forces will continue to receive the most advanced training available, exercise frequently to maintain proficiency and develop new skills, and work with foreign peers to hone combined skills as well as develop mutual trust and confidence.

Although U.S. forces currently possess sophisticated systems for combating terrorism, the department is increasing its research and development investment in this area. This funding will support several state-of-the-art development programs including systems to detect, assess and disable large vehicle bombs; stand-off explosive detection capabilities; pre- and post-construction blast mitigation techniques for physical structures; capabilities to maintain surveillance of, and to tag and track, harmful materials that can be used in terrorist attacks; and improvements to robotic vehicles used in counterterrorism operations.

■ Information Operations

Efforts to exploit information technology to adapt and transform the U.S. military are well under way. To date, the department has directed most of its efforts in this area toward protecting critical U.S. infrastructure against hostile information operations and developing U.S. information operation capabilities for use in peacetime engagement activities, smaller-scale contingencies and major theater wars.

Although our current capabilities are adequate to defend against existing information operations threats, the increasing availability and decreasing costs of sophisticated technology to potential adversaries demand a robust commitment to improve our ability to operate in the face of information threats as we approach the 21st century. Critical to ensuring that ability will be the institutionalization of information operations — the integration of information operations concepts into military planning, programming, budgeting and operations.

In the context of Joint Vision 2010, we will continue to develop additional guidance to strengthen information assurance — the protection, integrity and availability of



Cpt. William Lee, USA

critical information systems and networks. Further, we will allocate adequate resources for these efforts within our information technology investment programs and improve the defensewide planning and implementation process, regularly assessing funding adequacies for all information assurance program components.

Defense against hostile information operations will require unprecedented cooperation within the department and with other federal agencies, commercial enterprises, our allies and the public. The department is working closely with the Presidential Commission on Critical Infrastructure to develop this cooperative relationship. Technical measures to protect military information systems, both hardware and software, are being greatly expanded, and all services now provide capabilities to test and assess their information networks and systems. Capabilities to protect information systems must also extend beyond traditional military structures into areas of civilian infrastructure that support national security requirements, such as the telecommunication and air traffic control systems.

Offensive actions to disrupt our adversary's access to information are also part of U.S. military capabilities. Such capabilities will be increased in the future to ensure that the United States maintains information superiority during a conflict. ♦

Army Pfc. Brent Adams of the 1st Infantry Division checks a driver's identification card at a traffic stop in Bosnia. Adams and the division deployed to last year's Operation Joint Endeavor as part of the NATO Implementation Force.

Achieving the Right

OUR MILITARY FORCES AND OPERATIONS are changing dramatically in response to the changing security environment and advances in technology. The way we support the warfighter must also change. The department must be leaner, more efficient and more cost effective to serve the warfighter faster, better and cheaper.

We not only have the opportunity to change, we have the requirement to change. The forces envisioned in Joint Vision 2010 will require a radically different support structure. Achieving those forces will also require steadily increasing investments. To afford these investments, the department

will need to achieve offsetting efficiencies in support operations. The best source of funds for those investments is within the department's support operations. Consequently, the search for new ways in which DoD could improve its support operations was sweeping and deep.

The DoD infrastructure includes a diverse set of activities carried out by an even more diverse set of organizations. Foremost among them are installations for the operating forces, training programs for

military personnel, logistics support, central personnel services and headquarters functions. The organizations performing these functions accounted for 48 percent of total DoD military and civilian employment in fiscal 1997. In addition, 7 percent of DoD employees provide medical care for active duty and retired military personnel and their family members, and another 6 percent perform functions related to science and technology programs or to central command, control and communications

services. In sum, 61 percent perform infrastructure functions.

During the post-Cold War military drawdown, DoD attempted to reduce the defense infrastructure—including military bases and personnel associated with them—as it reduced the force structure. However, infrastructure reductions require separate actions and have lagged behind force structure reductions.

Specifically, from 1989 to 1997, the department reduced total active duty military end strength by 32 percent, a figure that will grow to 36 percent by 2003. In comparison, even after the completion of four rounds of base realignment and closure, the worldwide base structure will have been reduced only 26 percent. The reduction in domestic-only facilities has been 21 percent.

By the same token, personnel employed in infrastructure activities have been reduced only 28 percent since 1989—plans developed before the Quadrennial Defense Review were projected to yield a 33 percent reduction by 2003 even though some activities, such as the science and technology program and military quality of life programs, will be reduced only modestly or even enlarged.

To close the gap between force structure and infrastructure reductions and begin to reduce the share of the defense budget devoted to infrastructure, the review proposes the following four actions:

■ Make a further reduction of 109,000 civilian and military personnel associated with infrastructure beyond the initiatives in the DoD budget for fiscal 1998. These further reductions will bring the total reduction to infrastructure employment since 1989 to 39 percent.

**The department
must be leaner,
more efficient and
more cost effective
to serve the
warfighter faster,
better and cheaper.**

■ Request authority for rounds of base realignments and closures in 1999 and in 2001.

DoD's post-Cold War base realignment and closure reductions are now about half complete. Beginning in fiscal 1996, DoD began to accumulate significant savings from these reductions, and the savings will continue to grow. However, the Quadrennial Defense Review found DoD has enough excess base structure to warrant two additional realignment and closure rounds similar in scale to those of 1993 and 1995. Reductions would include not only bases and other supporting facilities, but also laboratories and test ranges that support research, development, test and evaluation.

■ Improve the efficiency and performance of DoD support activities by adopting innovative management and business practices of the private sector. These include streamlining, reorganizing, downsizing, consolidating, computerizing and commercializing DoD support operations.

■ Consider far more nonwarfighting DoD support functions for outsourcing. DoD's experience with outsourcing thus far demonstrates that it can enjoy many benefits private industry has gained from outsourcing — tighter focus on core tasks, better service quality, more responsiveness and agility, better access to new technologies, and lower costs.

First Steps

Because the size of the defense infrastructure received considerable attention in the Bottom-up Review and earlier evaluations, the Quadrennial Defense Review placed a great deal of emphasis on infrastructure operations. The assessment was motivated by the similarity between large portions of the

DoD infrastructure and business activities, and the recognition American business practices have undergone a revolutionary transformation. The department must adopt and adapt the lessons of the private sector if our armed forces are to maintain their competitive edge in a rapidly changing global security arena.

Defense agencies and defensewide activities carry out functions common to more than one DoD component. The 24 defense agencies and about 80 defensewide programs provide services ranging from intelligence to commissaries to health care to research and development. In fiscal 1997, they accounted for 22 percent of the department's total infrastructure funding and employed 117,000 civilian and 128,000 military personnel.

Before the review, the department had planned to reduce personnel levels in defense agencies and defensewide infrastructure by more than 16,000 civilian and 6,000 military billets — 9 percent — through fiscal 2003. New initiatives arose from the review to further reduce personnel and costs:

■ Outsource selected Defense Logistics Agency functions, including cataloging and increasing competition for disposal and

REVOLUTION IN BUSINESS AFFAIRS

Improve the department's efficiency now

- New base closure round(s)
- Logistics re-engineering
- Headquarters streamlining
- Additional outsourcing

Fundamentally re-engineering for the long-term

- Defense Reform Task Force to report in fall 1997
- Examine policy changes to improve efficiency
- Re-examine organizational structure for future

Deregulate through removal of legislative and regulatory obstacles

**Initiatives will eliminate
an additional 53,000
civilian and 35,000
military positions in the
military departments
by fiscal 2003.**

physical distribution.

- Re-engineer Defense Finance and Accounting Service operations by consolidating and outsourcing accounting functions and by streamlining vendor pay.

- Outsource selected patient care, medical training and installation support in the Defense Health Program.

- Consolidate the 16 large Defense Information Systems Agency processing centers into six.

- Re-engineer Defense Investigative Service business processes and implement service fees.

- Combine On-Site Inspection Agency operational commands and outsource monitoring activities.

- Reduce funding for most other defense agencies and defensewide activities by 6 percent, as a down payment until a detailed follow-up review is completed Nov. 30, 1997.

These initiatives will eliminate more than 18,000 civilian and nearly 2,000 military positions by fiscal 2003. Together with reductions already built into the defense

budget, there will be 18 percent fewer personnel assigned to defense agency and defensewide infrastructure activities in fiscal 2003 than there are now.

Military Departments

Most of DoD's infrastructure is in the military departments. Organized along functional lines, it furnishes resources for the management of defense forces, facilities, nonunit training and personnel support.

It also consists of acquisition support and command, control, communications, computer and intelligence systems. Military department infrastructure represented 78 percent of DoD's total infrastructure funding in fiscal 1997 and employed 572,000 civilian and 557,000 military personnel.

Before the Quadrennial Defense Review, the military departments had planned to reduce infrastructure-related personnel by 58,000 civilian and 20,000 military positions over the Future Years Defense Program, a

total reduction of about 7 percent. By adopting "best business" practices, streamlining management oversight, eliminating redundant functions and outsourcing or privatizing where appropriate, the military departments will be able to further reduce infrastructure costs and personnel. Specific proposals include:

- Reduce logistics support costs by integrating organizations and functions — supply, financial, automated data processing, transportation, maintenance and procurement — now being performed at multiple locations in a common geographic area. Each military department will reduce inventories and operating costs by sharing and linking consumer-level inventories and by eliminating redundant facilities and operations.

- Compete noncore depot maintenance work when other appropriate outsourcing criteria are met, and partner in-house facilities with industry to preserve depot-level skills and to use excess capacity.

- Reduce layers of oversight at headquarters and operational commands and eliminate management and support positions no longer required because of improvements in communications and information technology. DoD will also consolidate some support infrastructure outside the United States. These actions will eliminate 10,000 military and 14,000 civilian positions.

- Compete, outsource or privatize logistics and other support functions closely related to commercial enterprises. The military departments expect these initiatives will eliminate 25,000 military and 30,000 civilian positions by fiscal 2003.

These initiatives will eliminate an additional 53,000 civilian and 35,000 military positions in the military departments by fiscal 2003. This translates into a 15 percent total reduction when added to initiatives adopted before the review. There will be a slight further reduction of about 7,700 personnel by fiscal 2005 after all the effects of the review have been achieved.

The Quadrennial Defense Review initiatives outlined above will reduce infrastructure employment by about 109,000—about

72,000 civilian and 37,000 military positions — more than the substantial reductions already included in the defense budget submitted to the Congress in February 1997. When the review initiatives are fully implemented in the years beyond 2003, the additional civilian reductions will total approximately 80,000.

As a result, by the end of fiscal 2003, review initiatives plus those actions submitted with the budget will shrink infrastructure employment to 1.2 million people, which is 39 percent below the fiscal 1989 level. These reductions, nevertheless, fall short of what might be achieved by comprehensively re-engineering the defense infrastructure.

Recognizing the need for continued re-engineering, the secretary of defense commissioned the Task Force on Defense Reform to examine the Office of the Secretary of Defense, defense agencies, DoD field activities and the military departments. The panel will review the history, missions, resources, operations and requirements of these organizations to re-engineer the way they operate. The panel began its work in the spring of 1997 and will report its findings by Nov. 30, 1997.

In addition, a special study of headquarters and cross-service occupational specialties has been initiated. This internal assessment will provide a comprehensive review of all headquarters activities (except most operational commands) and is aimed at streamlining administrative command and control operations, eliminating redundancy and flattening excess layers of organizational hierarchy. A report and recommendations will be provided to the secretary of defense by Aug. 29, 1997.

DoD also will seek legislation revoking statutory provisions that preclude actions that would lower infrastructure costs without sacrificing military capability. From an economic perspective, these statutory provisions are comparable to regulations governing private industry. The regulations on DoD infrastructure activities are not classic regulatory controls over prices or rates of return, but they are similar to

regulations of airlines, railroads and trucking companies — largely removed during the late 1970s and early 1980s — that required firms to serve some markets and precluded them from entering others.

Two sorts of statutory relief are particularly important to DoD:

■ DoD needs the flexibility to reduce physical capacity through a process like the base realignment and closure legislation used to reduce excess base structure associated with the post-Cold War drawdown of U.S. forces.

■ DoD is required by statute (10 U.S. Code, Section 2466) to perform 60 percent of depot maintenance activities in public depots. Relief from this provision would enable DoD to contract out noncore functions that can be performed less expensively by private sector firms.

The department faces other statutory barriers to increased use of competitive procurement of services provided by infrastructure activities. Subsequent legislative proposals will be made to allow further streamlining and increased efficiency.

The most stressing requirement for the U.S. military is fighting and winning the nation's wars. To perform this role, the department requires robust and modern infrastructure activities. Although recent reductions will restore the department's infrastructure to its historical proportion relative to the size of the total force, it is clear further reductions are possible and must be made to support training, modernization and operational requirements at less cost.

Working with Congress, the department can eliminate the inefficiencies imposed by outdated regulations and procedures, and institute modern, cost-effective business practices. If we are able to do so, our support activities will greatly enhance the combat power of our forces at less cost. ♦

When the review initiatives are fully implemented in the years beyond 2003, the additional civilian reductions will total approximately 80,000.

Quadrennial Defense

Paying for the Plan

THE QUADRENNIAL DEFENSE REVIEW

included consideration of the fiscal environment in developing a program to meet the requirements of the defense strategy.

Absent a marked deterioration in world events, the nation is unlikely to support significantly greater resources dedicated to national defense than it does now — about \$250 billion per year in constant 1997

**Any slowing of progress
in reaching deficit
reduction targets could
generate pressure to
lower DoD spending.**

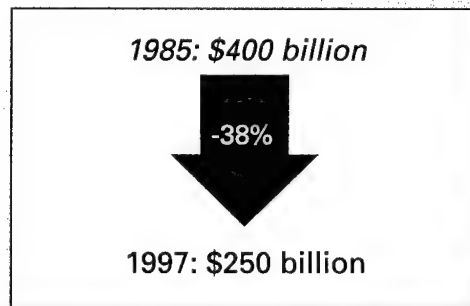
dollars. Indeed, any slowing of progress in reaching deficit reduction targets could generate pressure to lower DoD spending. At the same time, DoD already faces tensions among the resource priorities within its own budget and program.

The most immediate symptom of these tensions has been the chronic migration of planned procurement funds to operations and support activities. More fundamentally, the financial plans underlying the department's commitment to maintain high readiness, protect force structure and invest in modern equipment have become increasingly vulnerable to a range of potential

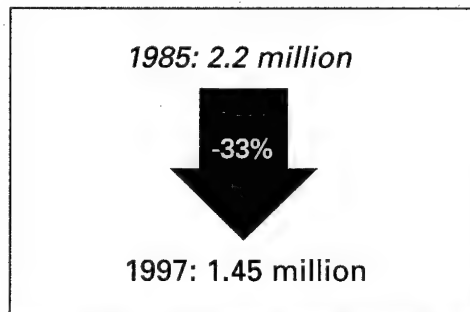
INVEST

DoD BUDGET TRENDS

(in constant FY 1997 dollars)

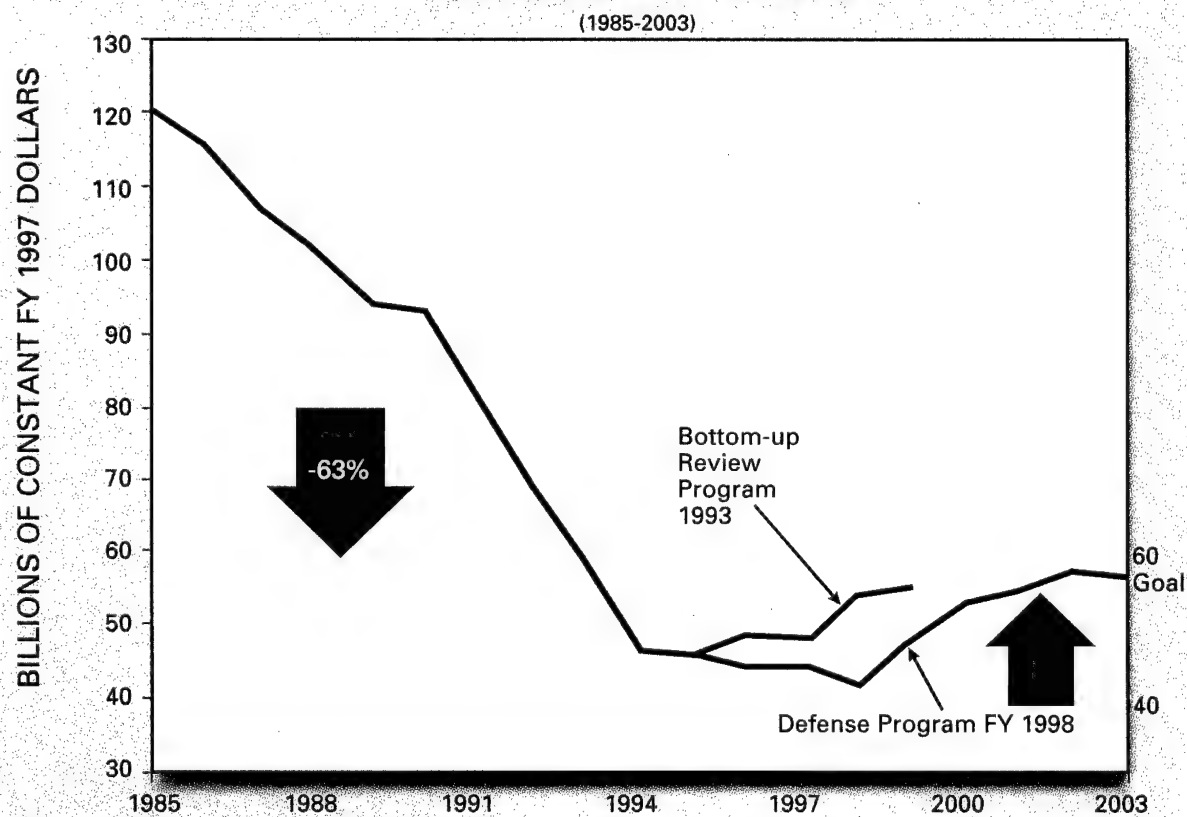


FORCE DRAWDOWN



THE END OF THE PO

DEFENSE BUDGET CHALLENGE PROCUREMENT TRENDS



POST-COLD WAR DIVIDEND: MODERNIZATION MUST REBOUND

**To modernize the force, the
department established a goal of
increasing procurement funding to
roughly \$60 billion by fiscal 2001.**

disruptions, some quite likely and predictable, others more uncertain. Consequently, an important task of the review was to make strategy-based program adjustments that would improve the department's financial posture. The difficulty of making these determinations mirrored the fundamental challenge of the strategy: how to strike the right balance between meeting urgent obligations in the present and investing in imperative modernization for the future.

Investment Challenge

Fulfilling a strategy of shaping the international security environment, responding to the full spectrum of crises and aggression, and preparing for the future requires substantial and ready forces and a focused program of investments to improve the equipment those forces will employ. Although existing plans project significant increases in modernization funds, they are threatened by the department's record of having to pay operating expenses from those funds. Therefore, a focus of the Quadrennial Defense Review was to build a solid financial foundation for a modernization program that could reliably support the future warfighting capabilities called for by Joint Vision 2010. The key to that foundation is to halt the chronic disruption to modernization plans by properly projecting and funding the department's operating and support activities.

To modernize the force, the department established a goal of increasing procurement funding to roughly \$60 billion by fiscal 2001. The chairman of the Joint Chiefs of Staff affirmed that goal during preparation and presentation to Congress of the last two defense budgets. Although we have made some reductions in the modernization program as a result of the review, \$60 billion remains the rough level of procurement

funding the department believes is necessary to modernize even the slightly smaller force that will result from the review. On the path to that goal, the department has established somewhat lower intermediate targets of \$49 billion in fiscal 1999 and \$54 billion in fiscal 2000. Continuing efforts to reduce the costs of the defense infrastructure will be needed to achieve those targets.

In the years immediately following the end of the Cold War, department spending cuts came disproportionately from reductions in procurement spending, a decision that reflected a prudent, calculated risk initiated by the Bush administration and continued by the Clinton administration. This approach was possible because large quantities of modern equipment had been purchased during the 1980s and force reductions had permitted the retirement of older ships, aircraft and armored vehicles in the early 1990s. That drawdown is now over, the dividend from procurement reductions has been spent. Investment in modernization needs to rebound or the technological superiority of our forces — and our ability to sustain their equipment stocks — will erode over time.

However, each new defense program since completion of the Bottom-up Review in 1993 has postponed the previous year's plan to increase procurement spending. As a result, with each successive budget, the trough in the department's procurement plans has shifted one year into the future and the cumulative amount of procurement planned in each program has declined. For example, whereas the Future Years Defense Program associated with the fiscal 1995 budget developed after the Bottom-up Review had planned an increase to procurement in fiscal 1998 to \$54 billion, the budget submitted in February of this

**Investment in modernization needs
to rebound or the technological
superiority of our forces ... will
erode over time.**

year requests procurement funding of \$42.6 billion. In addition, in the budgets for fiscal 1996-1998, there was a cumulative loss of \$18 billion in procurement funding relative to the Bottom-up Review plan.

These postponements have generally reflected the high priority the department attaches to current spending on readiness. But in addition, they have occurred because our planning has not managed financial risk in a way that reflected the importance we also attach to investing in the future. As the most discretionary area of the budget within an established force and operating posture, modernization has borne a disproportionate share of the disruptions and alterations that occur in the preparation and execution of budgets and programs. Unprotected from this pattern of funds migration, procurement plans most likely would continue eroding as they have in recent years, and the planned increase from \$42.6 billion to roughly \$60 billion would fail to materialize.

Assessing Resource Challenges

Consequently, a principal resource management objective of the review has been to understand financial risk in the department's program plans and devise approaches to manage that risk. The first step was a detailed analysis of the potential sources of instability built into the current Future Years Defense Program, and the implications of that instability for funding requirements in the years beyond 2003. This analysis served to frame the fiscal context for making decisions in the review and will improve the prospects for full execution of resulting directions.

The assessment focused on three sources of disruption to the department's program plans:

■ Funds migration is the primary source of instability. This chronic erosion has three

general sources: unprogrammed operating expenses from underestimated costs in daily operations such as depot and real property maintenance, military construction and medical care, and the incremental costs of unplanned deployments and smaller-scale contingencies; the failure of initiatives like competitive outsourcing or business process re-engineering to realize projected savings; and demands caused by unforeseen changes in policies and priorities, such as new funding for national missile defense, strategic arms reduction support and possible support to NATO enlargement efforts.

The magnitude of financial risk associated with these sources of migration varies. Given the international security environment and strategy on which the Quadrennial Defense Review was based, the potential is high for at least some amount of unprogrammed costs materializing from, for example, contingency operations. The advent of other unprogrammed expenses, as from savings initiatives not fully realized, is much more uncertain and depends heavily on the department's progress in more efficiently operating the defense infrastructure.

On balance, the review proceeded from the assumption that by the end of the current six-year plan, as much as \$12 billion per year of funding would be at risk to migration. Under those circumstances, procurement funding would erode from the planned \$60 billion in the fiscal 2001 to 2003 period to a range of \$45 billion to no more than \$50 billion. Against the strategy and modernization priorities resulting from the review, a procurement program of no more than \$50 billion per year is clearly inadequate. Deterioration and obsolescence in equipment would erode long-term force structure and compromise the technological

**Deeper reductions to the defense
infrastructure through more fundamental re-
form of these activities ... could also generate
needed investment funds in future years.**

superiority of future forces. The concepts called for in Joint Vision 2010 could not be realized.

To address migration, the department will redirect resources, building to about \$7 billion annually by the end of the Future Years Defense Program, from the savings made available by trimming forces, streamlining the infrastructure and adjusting modernization plans. Using these resources to program more accurately for the costs of operating the defense establishment and to hedge against the loss of the savings we expect to accrue from cost-reduction initiatives will go a long way toward breaking the pattern of erosion in our procurement plans, but further savings are needed to secure fully the planned modernization program.

A number of other steps can help address this challenge. Additional rounds of base realignment and closure would generate steady-state savings of up to \$3 billion per year. Deeper reductions to the defense infrastructure through more fundamental reform of these activities — a chief object of the Task Force on Defense Reform — could also generate needed investment funds in future years.

Unless the migration problem is addressed aggressively, there will be little margin for error in sustaining modernization plans in the face of unexpected demands for operating expenses or other new funding requirements.

■ A “bow wave” of projected funding can accumulate and hinder modernization in the years beyond the Future Years Defense Program.

Potential minor procurement funding shortfalls represent the first long-term challenge to the defense program. A growing shortage of smaller items of equipment may

present a future demand for unplanned expenses that are essential to maintaining the material condition and readiness of U.S. forces. Items like generators, field kitchens and incremental modifications to electronic equipment — things essential to field operations — currently are being funded at levels well below their historical average. These plans may reflect a change in the traditional composition of the services’ procurement requirements, but they may also reflect a shortcoming in department planning, introducing a risk to procurement plans somewhat akin to that of unforeseen requirements for depot and real property maintenance. These additional demands may require future growth in investment funding of some \$2 billion to \$3 billion per year, further strengthening the department’s motivation to generate savings in infrastructure costs and to implement acquisition reforms to minimize the cost of the equipment needed to sustain the force.

second long-term resource challenge concerns projections of funding requirements for modernization beyond the end of the current program in 2003. As successive future years programs reduced the amount of procurement programmed in the six-year planning period, some of these reductions have accumulated into long-term projections, creating a so-called bow wave of demand for procurement funding in the middle of the next decade. This bow wave is a risk to the long-term affordability of the department’s modernization plans.

The department has paid closer attention to this risk since the defense budget began declining in the late 1980s. Current projections indicate accumulation of investment funding requirements in the years beyond the Future Years Defense Program could

**The true test of any financial plan
is ... in the stability and reliability of its
forecasts and in their suitability to the
strategy that they serve.**

grow by several billion dollars to support projected modernization programs. Though modest by historical standards and affecting selected programs, this bow wave would tend to disrupt planned modernization programs unless additional resources are made available. Some of the rationalization of outyear modernization resulting from the review, especially in aviation, will flatten the bow wave, thus improving future affordability and the stability of the overall defense program. Realization of additional infrastructure savings through fundamental reforms and base realignments and closures will also help sustain the long-term modernization of the department's forces.

■ Technical risks and program uncertainties inherent in complex, leading-edge development efforts can escalate costs and offset reductions in other programs.

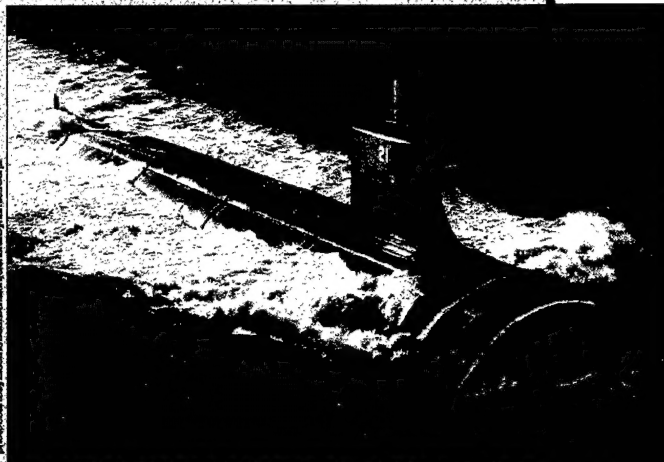
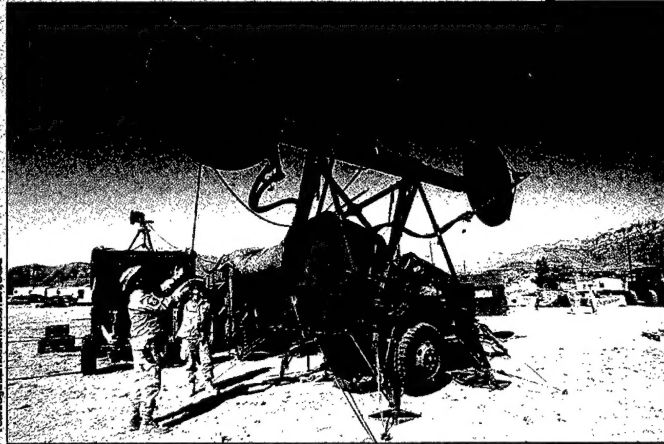
Complex, technologically advanced programs all bear some risk of costing more than planned. When unforeseeable growth in costs occurs, offsets from other programs must be found, which in turn disrupts the overall modernization program. Our programming process must provide sufficient flexibility in the form of program reserves to address this risk. As a result of the review analysis, each military department plans to establish a prudent funding reserve in its outyear plans to offset these types of cost increases and significantly reduce one of the destabilizing factors affecting our modernization programs. Additionally, the department will select several pilot programs that will carry similar reserves in the budget as a means of mitigating significant cost or schedule impacts that arise in the year of execution.

Program adjustments resulting from the Quadrennial Defense Review will strike a better balance in the DoD's program and financial plans between meeting urgent,

current obligations and imperative future modernization. Consistent with the strategy and force posture, these adjustments will provide for a more stable and sustainable modernization program into the next century. However, even after taking these steps to prevent procurement disruptions, some potential for migration will remain. The extent to which a more stable budget and program provide predictability, which in turn helps control acquisition costs, should mitigate some of that remaining financial risk. That some potential for funding migration will remain in the defense program after implementing the review only serves to underscore the importance of the department's continuing efforts to achieve fundamental reform of its infrastructure and revolutionary changes in its business practices.

In terms of its impact on resources, the achievements of the review will not be immediately evident in the numbers. The total funding planned for procurement will be somewhat reduced from the outyear plans reflected in the president's fiscal 1998 budget. However, new budget projections that result from the review should be both more sustainable and less vulnerable to continued migration.

The true test of any financial plan is not only in its numbers, but especially in the stability and reliability of its forecasts and in their suitability to the strategy that they serve. By this measure, the Quadrennial Defense Review will prove to have made a signal contribution to the department's stewardship of the resources the nation commits to national defense. While upholding the capability and readiness of the force, the review will have launched a plan to modernize for the future whose foundation is more reliable and secure. ♦



THE DEPARTMENT MUST BE LEANER, MORE EFFICIENT AND MORE COST EFFECTIVE TO SERVE THE WARFIGHTER FASTER, BETTER AND CHEAPER. WE NOT ONLY HAVE THE OPPORTUNITY TO CHANGE, WE HAVE THE REQUIREMENT TO CHANGE.

